This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

11,
3, 4, 5. 6. 7 10. 11, 12. 13, 14. 22, 26

৬/২৩/৭২
[illegible]

11,
3, 4, 5, 6, 7, 10, 11, 12, 13, 14, 22, 26

۶/۲۵/۴۲

Ch
AU
AH
v.1

U.S. Patent Office.
Patent Office Papers

Vol. 1

5-2-36

3

Preface by the Commissioner

One of the prominent attorneys practicing before the Office said to me that if he were Commissioner he would call the Corps together and give them a talk about once a week. I had always entertained a higher opinion of the Corps than this suggestion indicated. Thinking it over, however, it occurred to me that if my estimate was correct, they should be able to produce papers that would be interesting and useful. These papers were thereupon started in the fall of 1914.

After a few papers had been read, it b came evident that to derive the full advantage from them they should be printed. The Corps raised the necessary money to start the printing. The edition of the later papers has run to about 800, of which roughly one-third has been taken by the Corps and two-thirds by attorneys. The total expense has been about $2,000.

They constitute a valuable textbook written by and for practical workers. Fifty copies have been reserved and are to be presented to important law libraries.

The preparation of these papers has stimulated study of the law and practice throughout the Office, and I believe they have increased the respect of the profession for the Corps.

147

The U. S. Patent Office

A Short Account of
Its History, Organization and Procedure

([illegible]
[illegible])

By WM. I. WYMAN

Member of the Examining Corps, U. S. Patent Office

Published by
THE PATENT OFFICE SOCIETY
WASHINGTON, D. C.
May, 1919

THE PATENT system, by which an inventor was given a limited enjoyment of his invention as a reward for his services to the community, originated in England. The famous "Statute of Monopolies," enacted in 1623, abolished all exclusive economic privileges but established the right of an inventor to receive as a reward from the state a grant commensurate with the services rendered. Thus the very act which first recognized the reprehensible character of private monopoly was the means for establishing, for the first time in history, the right of patent protection.

JAMES MADISON
Sponsor of the American Patent System

EARLY DAYS OF THE PATENT SYSTEM IN AMERICA

The first patent granted on this continent was to Samuel Winslow, by the General Court of Massachusetts in 1641, for a novel method of making salt. Connecticut also was early active in encouraging invention and required, as the basis of a patent grant, that the invention "shall be judged profitable to the country." The spirit of the "Statute of Monopolies" was thus promptly carried over to this side of the water and was followed more faithfully in some of the colonies than in the mother country, where it originated.

The basis of the patent system in the United States is a provision in the Constitution giving Congress the power to secure to inventors for limited times an exclusive right to their respective discoveries. Madison was mainly instrumental in introducing this provision into the Constitution. The first legislative enactment was the law of 1790, which was placed on the statute book after Washington had addressed Congress in its favor. Under it, the Secretary of State, the Secretary of War, and the Attorney-General constituted a board for the examination of applications and grant of patents. The first Secretary of State was Thomas Jefferson, and as he was, through his office, the keeper of the records, he became in fact the first administrator of the patent system in this country. He was exceedingly interested in this duty and was the most active member of the board, examining personally every application filed during his term.

ESTABLISHMENT OF PRESENT PATENT SYSTEM BY CONGRESS

In 1793 the Patent Act was changed so as to permit anyone to obtain a patent, whether or not he was the original inventor and whether or not his contribution was useful or novel. In 1836 the present system was established by an act passed through the efforts of Senator Ruggles of Maine. This law instituted the so-called American method of granting patents only after a thorough examination into the utility, operativeness, and novelty of the inventions, and provided the machinery and the procedure for carrying out the purpose of the act. It created a revolution in the methods of granting patents comparable in effect with the institution of the patent system itself. It is under the system so inaugurated that the Patent Office is now operating, and so superior is this method over any other that every civilized and progressive country in the world, with but one exception, has adopted it.

BUILDINGS OCCUPIED BY PATENT OFFICE, PAST AND PRESENT

In 1810 Congress authorized "the purchase of a building for the accommodation of the general post office and of the office of the keeper of patents." The building purchased had been known as Blodgett's Hotel, situated on E Street between Seventh and Eighth Streets northwest, and in 1811 the business of the Patent Office was moved from a house on Eighth Street, just below F Street, to the second floor of the new building, where it remained under the superintendence of Dr. Wm. Thornton until his death, which took place in 1828. Dr. Thornton was the first superintendent of the Patent Office, the position having been created for him by President Madison. In 1836 these quarters were destroyed by fire and Congress then authorized the erection of the present building. The original, or F Street wing, was finished in 1840, the east wing in 1852, the west wing in 1856, and the north wing in 1867. The total cost of the building has been about $3,000,000. In 1877 a disastrous fire broke out on the third floor of the G and Ninth Street wings, destroying many records and models.

The Patent Office building is 403 feet long by 274 feet wide; it surrounds a court approximately 264 by 106 feet. The portico in the center of the F street front, copied from the architecture of the Parthenon at Athens, is a noble and impressive feature of the building. The whole structure, viewed from any angle, presents an artistic and dignified appearance, and is an ornament to the city and a worthy monument to the designer and its projectors.

GROWTH, ORGANIZATION, AND METHODS OF GRANTING PATENTS

Since 1836 more than a million and a quarter patents have been issued. The Patent Office began its existence with a commissioner, one examiner, a clerk and two other clerks having the necessary qualifications of draftsmen. The office force now includes a commissioner, two assistant commissioners, five law examiners, a board of appeals of five members, forty-eight examiners having the rank of principals, about 360 assistant examiners, and a clerical force numbering approximately 525.

THOMAS JEFFERSON
First Administrator of the Patent System

There are forty-five examining divisions, each in charge of a principal, who has under him six to eight assistant examiners. Each division passes on distinct subjects of invention, representing the entire range of human endeavor in tangible effort. Whether the invention pertains to a hairpin or a cantilever bridge, a perfume or a deadly gas, a process for mounting jewels or for extracting and refining metals, a new toy or a new engine of destruction; whether it is mechanical, chemical, or electrical, as simple as a pin or as complex as a newspaper printing press; there will be found in the Patent Office experts possessed of the requisite knowledge to understand the invention, its operation, and the field occupied by similar attempts.

Every material device or operation in a material process is disclosed eventually in the comprehensive records of the Patent Office, and every development thereof, before being protected by patent, must pass through the hands of the examining force of the office, to be critically scrutinized, subjected to amendment, and rejected or accepted. Virtually all the members of the examining force are college graduates, most of whom hold degrees in both law and science, such combined education and training being found to make for efficiency in the discharge of their important duties.

DR. WM. THORNTON
First Superintendent of Patents

The assistant examiner, by whom applications for patents are originally dealt with, must know the "art" relating to the invention disclosed. He must be at least tolerably familiar with the patents and literature in various languages covering similar inventions, must understand the principles, both scientific and technical, of the devices he is examining, and must be acquainted with related devices scattered throughout the office. He must be able, of course, to read drawings and must have so detailed a knowledge of the principles of, and decisions in, patent law as to be able to correspond intelligently and to hold his own in controversy with the alertest attorneys, many of whom represent the largest manufacturing interests in the country.

The primary examiners are the immediate superiors of the assistant examiners. Each of them is in charge of several classes of inventions, and his decision, if in favor of an application, is final. It is estimated that the adjudications of the primary examiners involve property rights reaching into hundreds of millions annually. A single invention—the Bessemer converter process—has been held by one authority to have doubled the wealth of the world.

In addition to the examining corps, the technical and legal organization of the Patent Office consists of interference examiners, a trade-mark examiner, a classification examiner, a board of examiners-in-chief, a staff of law examiners, and a commissioner and assistant commissioners. The interference examiners decide who is the earliest of several inventors having conflicting claims for the same invention: the board is an appellate tribunal, which hears and decides cases passed on adversely by a lower tribunal; while the commissioner has still further appellate jurisdiction. From the commissioner a final appeal lies to the Court of Appeals of the District of Columbia.

The work of the classification examiner and his assistants is probably the most involved in the office. As before stated, more than a million and a quarter patents have been granted in this country. Probably upward of a billion facts are disclosed in these patents, each more or less concrete and all more or less associated in different combinations, involving several more billion arrangements of a greater or less number of units. The effectiveness of the search of the examiner is wholly dependent on the character of this classification, consequently the importance of a scientific classification is evident. The office has wrestled with this problem for about twenty years, at an expense of more than half a million dollars, and hopes to secure eventually a complete and workable scheme.

BEGINNINGS OF THE MERIT SYSTEM IN THE CIVIL SERVICE

An interesting historical fact is the institution by Commissioner of Patents Fisher, in 1869, of the competitive examination system for entrance into the examining corps, thus anticipating by many years the general introduction of the merit system for government appointments. This is believed to be the first appearance of this feature in the history of our civil service. The requirements of the position of examiner were such as to make it dangerous to the rights of inventors and manufacturers to place in control of the technical and legal administration of the work untrained men selected by haphazard appointment through favoritism. Thus, force of circumstances compelled the establishment and retention in the Patent Office of the merit system long in advance of its endorsement by public sentiment and its general adoption through legislation.

INFLUENCE OF INVENTIONS ON HISTORY OF UNITED STATES

Apart from her material resources the United States owes her commanding position in the economic sphere more to the inventive genius of her people than to any other single factor. The development of those material resources is due mostly to the processes and mechanisms which have resulted from invention. Unaided labor, that is, primal human energy, would have been of but little avail in extracting the enormous wealth from the bowels of the earth, in gathering the immense crops, in producing the stupendous output of steel and other metals in the mills and refineries, in fabricating the huge quantities of manufactured articles that come from the factory and shop, and in transporting the raw and finished materials that make up our almost unlimited tonnage of rail and shipping. Without the influence of invention we could not conceive of the modern world as developed from the old world of manual operations. Without such inventions as the steam engine, the locomotive, the steamship, the telegraph, the telephone, the automobile, the trolley car, the electric light, the dynamo, the motor, the reaper, the cotton gin, the printing press, the smelting furnace, our present civilization could not exist. To invention alone do we owe vastly increased production of the fruits of the earth and of the materials of manufacture; to invention alone must we look for such further increment of wealth that the reasonable aspirations of every civilized being may be provided for.

JOHN RUGGLES
Author of Patent Act of 1836

As the world must depend on the solution of social and economic problems for the proper and equitable distribution of the products of labor, so it must be through the agency of invention that sufficient wealth in the aggregate shall be produced to make possible a high average of comfort and well-being. Not only is invention the means by which the increased productivity necessary for the betterment of the economic state must be accomplished, but it is the medium through which the worker may express his ideas in the way of improving processes and machines. Invention is the direct means for advancing the worker's state, and many of the greatest inventors have come up from the ranks at the bench, the lathe, in the shop and the laboratory. It is the most democratic of opportunities, and its rewards (where the intent of the system is attained) are the most equitable.

THOMAS EWING
Former Commissioner of Patents

Of all the countries in the world the United States has benefited most by invention. Her inventors form the most notable list in the sphere of applied science, and their contributions are the wonder and the envy of her competitors for industrial supremacy. To the cotton gin the South largely owes her prosperity, and the Northern textile mills a sufficient supply of raw material; to the McCormick reaper the West owes in no small degree her development and the country a plentitude of food products. To the patent system as instituted in this country, which has most encouraged and protected and thus stimulated invention, do we owe this advantage primarily. In a recent address by Sir Robert A. Hadfield of Sheffield, England, one of the world's greatest inventors, a leading authority on metallurgy, and a steel manufacturer of world-wide reputation, he said:

> As showing how Patents for Inventions strike a "new" nation, it may be mentioned that the Japanese Government, when considering the establishment of a patent system on the lines of that created by the American Patent Act of March 1, 1899, appointed Mr. Takanashi their special commissioner to Washington, D. C. On being asked why the people of Japan desired to have a patent system, he replied: "It is only since Commodore Perry in 1854 opened the ports of Japan to foreign commerce that the Japanese have been trying to become a great nation, and we have looked about us to see what nations are the greatest, so that we can be like them, and we said: 'There is the United States not much more than 100 years old, and America not discovered by Columbus until 400 years ago.' We said, 'What is it that makes the United States such a great nation?' and we investigated and found that it was patents, and we will have patents.'" The writer in every way agrees with this wise statement by the Japanese representative, and wishes his countrymen would insist upon a British Parliament giving to the British empire a patent law as liberal and as equitable as that of the United States of America.

PATENT SYSTEM SUFFERS FROM LACK OF PROPER SUPPORT

This is the opinion of a disinterested and most discriminating critic and no more valuable and conclusive testimony could be offered. Yet the system that has done so much for America has not had the support of American public opinion. Like all effective organisms the patent system must grow or wither. Although the American patent system is the best ever devised, it has been so neglected by Congress that it is almost "run down at the heel." Its facilities and equipment are with few exceptions the poorest of those of the government bureaus in Washington; its personnel is inadequate in numbers to cope with its duties; and the methods of promotion and the compensation awarded its technical corps are so antiquated that the force is in a continuous state of flux owing to numerous resignations resulting from vastly better opportunities offered in private employment. This neglect is undoubtedly based on ignorance of conditions in, and requirements of, the Patent Office. It is inconceivable that public opinion, once it appreciated the facts, would permit an institution so identified with the progress, the industrial welfare, and the genius of this country, to grow stale through indifference. It is hardly imaginable that the country of Eli Whitney, Fulton, Howe, Morse, Bell, Edison, McCormick and Wright would repudiate the system which has been the peculiar incentive for the display of America's signal intellectual efforts in a most important field of achievement.

EFFECT OF COURT DECISIONS IN PRICE-FIXING CASES

In former days patent cases in litigation could be carried upon appeal to the Supreme Court of the United States. For some time, however, the final adjudication of these cases, with rare exceptions, has rested with the several circuit courts of appeal, resulting in divergencies in practice, unsettlement in principles, and uncertainty in the status of patent rights. The judges in these courts find patent cases intricate, and, through admitted lack of technical training, are somewhat reluctant to consider them. The Supreme Court, however, still interprets the law involving fundamental rights, as illustrated in the decision of the Boston Store of Chicago *v.* American Graphophone Co. et al. This decisive and comprehensive opinion, reversing the law laid down in the Dick mimeograph case, affirms views of the same tenor just previously announced, to the effect that a patent grant confers on its beneficiaries no greater right of price-fixing, as the term is generally understood, than is possessed by the owner of an unpatented article. The general law gave no right to fix prices for resale, and it was held that the patent grant could not be extended to abrogate a privilege reserved to the public. This decision will effect economic changes of far-reaching importance and has already caused the Federal Trade Commission to rule that "when once an article has passed from a maker to a purchaser he owns it, and the owner of such article may sell it at any price that he chooses, provided he does not himself sell it at such price as to be below cost, and thus thereby enter into unfair competition with other retailers selling the same article."

JAMES T. NEWTON
Commissioner of Patents

THE PATENT OFFICE SOCIETY AND THE REFORM OF THE SYSTEM

The Patent Office Society has been formed with the main end in view of directing public attention to existing deficiencies in the patent system and of proposing methods of reform. It is composed of members of the examining and legal corps of the Office, and members of the patent bar; manufacturers and inventors are eligible to associate membership. The Society has enlisted the aid of the National Research Council, which has actively interested itself in furthering the constructive aims of the organization. The Council, with the concurrence of the Commissioner of Patents and the Secretary of the Interior, has investigated these questions. The Council has gone on record in favor of constituting the Patent Office a bureau independent of the Interior Department, of the creation of a court of appeals in patent cases, and of a larger and more adequately compensated personnel. The independence of the bureau is deemed essential to induce the public to consider the needs of the Patent Office on its merits, while the institution of a court of appeals is regarded as necessary in order to provide uniform and intelligent consideration of the technical and legal questions that are special features of present litigation. Engineering and other scientific societies have already endorsed the report and will support by proper action the recommendations therein made.

The Patent Office Society was formed during the administration, and with the full acquiescence, of Commissioner Thomas Ewing. He signalized his occupancy of that position by many radical innovations tending toward uniformity and simplicity in the practice and more direct methods of applying justice in disputed cases. He was ably seconded by Assistant Commissioner Newton, who, since he has become the head of the Patent Office, has continued the policies thus inaugurated. Mr. Ewing has persisted in his interest in improving the Patent Office and always lends the weight of his experience and commanding influence to any effort that has that end in view.

The following is an excerpt from an address delivered recently by Mr. Ewing before the Atlantic City Conference, representing almost every organized commercial body in the country. It is authoritative and pregnant with significance and epitomizes the existing situation as accurately and comprehensively as could be covered in so few words:

> The theory of the Patent Office is that patents will be granted only when they ought to be granted, and that the claims that are allowed will be only such as ought to be allowed; and in view of the fact that there are more than 400 men engaged constantly in the examination of applications, the courts give great weight to what the Patent Office concludes. They are frequently saying, "Why, there is a finding by the Patent Office; here is something which the experts at the Patent Office have held to be novel, over the other patents which are being presented to us," and the courts will therefore reject arguments for holding a patent invalid, or for limiting it. They rely upon what the Patent Office has decided and seek to give effect to its conclusions. With such an attitude, which is perfectly proper in view of the theory of the Patent Office, it is the worst sort of business to have a Patent Office that is insufficiently provided with men and facilities for making proper examinations. It becomes dangerous, because weight is given to patents which is not deserved, not that the Patent Office is not industrious, and not because its *esprit de corps* is not high, for the examiners are both industrious and of high character, but because the office is inadequately supplied with means and with men to make proper searches, and their conclusions are therefore, in many cases, erroneous.
>
> I would like to impress upon you today that it is of the utmost importance to all of you, no matter whether you are interested in patenting inventions or are interested in going into new fields which are being developed by other people where you may have to meet hostile patents—it is to your interest and it is to the interest of every inventor as well, of course—that the office be efficiently and adequately provided with the means necessary to perform its great labor.

It would thus appear that the accumulated neglect of this institution has resulted in a condition necessitating the arousing of the public consciousness. The Patent Office is too closely identified with the genius that is peculiarly American, and too intimately associated with the stimulus required to promote further progress, to be any longer ignored. It has been a tremendous factor in the country's development—it needs only enlightened encouragement and considerate treatment to render it of supreme service to the industries and welfare of the country.

Harvey J. Hanson

125

PATENT OFFICE PAPERS

Subject Index

PREPARED BY

CHAS. W. MORTIMER

(Interference Division)

THE LAW REPORTER PRINTING COMPANY, WASHINGTON, D. C.

[illegible] sed [illegible]

2 [illegible] 21)

3 [illegible] ✓

4 [illegible] ✓

5

6

7

8 [illegible]

10 ✓

11 [illegible]

12

13 [illegible]

14 [illegible]

[illegible] ✓

= Cramer
= Chamberlain
= Hammerschmidt
= " " Duplicate
= " " Triplicate
= [illegible] A. Kinney

List of Papers.

No.	Author.	Subject.
1.	Sewall, E. D.	The Classification of Patents.
2.	Magruder, W. B.	The Records of Assignments of Patent Property.
3.	Loeffler, F. A.	Public Use or Sale.
4.	Pierce, C. H.	Abandonment of Application.
5.	Boyle and Ulke	The German, Austrian and Hungarian Patent Offices.
6.	Baldwin, M.	Some Consideration of the Term Combination.
7.	Haden, C. F.	Application and Scope of Order No. 2010.
8.	Fosselman, J. J.	Mechanical Methods.
9.	Jenks, C. L.	Article on Patentable Processes.
10.	Wyman, W. I.	Functional Statements in Claims.
11.	Merritt, A. D.	Pertinent Decisions and Orders Relating to Some of the Rules of Practice.
12.	MacNab, J. F.	Invention and Patentability under the Patent Statutes as applied to So-called Printed Matter and Methods or Systems of Doing Business.
13.	Wead, C. K.	Formal Objections to Applications for Patents.
14.	Lewers, A. M.	Composition of Matter.
15.	Underwood, L. D.	Certain Phases of Reissues, Particularly Delay in Filing the Application, and Inadvertence, Accident or Mistake.
16.	Tucker, G. P.	A "Career" in the Patent Office.
17.	Tucker, G. P.	Invention *vs.* Mechanical Skill.
18.	Haskell, P. D.	Ex Parte Eagle C. D., 1870, page 137.
19.	Tryon, F. M.	The Marginal Claim, with Respect to the Requirement of Invention.
20.	Mann, L. B.	The Oath Required by Rule 46.
21.	Oberlin, J. J.	Pitfalls, or How an Invention May be Lost.
22.	Armstrong, H. C.	Abandonment of Invention.
23.	Hostetler, T. A.	The Entry of Amendments.
24.	Sadler, L. A.	Practice Relating to Division as Indicated by Decisions of the Board of Examiners-in-Chief.
25.	Nixon, G. A.	Rules 75, 94, 96 and 124, Read in the Light of Decisions Explanatory Thereof.

2A [illegible]

26.	Groesbeck, W. D.	Claims for Aggregations of Elements.
27.	Maxson, L. W.	Combination *vs.* Aggregation.
28.	Redrow, W. L.	Processes as a Subject of Invention.
29.	Kinnan, W. A.	Suggestions as to Methods of Shortening Time Required to Finally Adjudicate Applications for Patents.
30.	Brumbaugh, N. J.	History and Purpose of Claims in United States Patent Law.
31.	Brown, C. W. H.	Patent Office Drawings Relating to Applications.
32.	Reynolds, E. C.	Mechanical Processes and Functional Claims.
33.	Moore, M. J.	Novelty.
34.	Wright, H.	Mechanical Equivalents.
35.	Ballard, W. R.	Res Adjudicata as a Ground of Rejection.
36.	Giles, A. H.	The Benignant Agency of Construction in the Courts.
37.	Colwell, J. H.	Observations Pertaining to Examiners' Duties and Their Actions with Particular Reference to Rules 65 and 66.
38.	Porter, F. J.	Foreign Patents and Foreign Applications Mentioned in Sections 4886-7.
39.	Cowles, A. W.	The Relation of "Novelty" and "Invention" to the Citation of Art.
40.	Bayard, F.	Res Adjudicata.
41.	Carnes, J. H.	Trade-Marks.
42.	Garrett, G. E.	The Registration of Prints and Labels.
43.	Houston, H. I.	What is Patentable as a Design?
44.	Stauffer, H. E.	Special Cases Arising in Interference Proceedings.
45.	Darby, J. J.	Combination Claims Employing Terms "Means," "Mechanism," etc., Followed by a Statement of Function, with Relation to the Statute.
46.	Morgan, E. T.	Establishing Novelty by Affidavits.
47.	Lightfoot, J. H.	The Development of Fundamental Principles Involved in the Patent System and Their Relation to the Examination of Applications for Letters Patent.
48.	Marine, R. E.	Protection of Invention; Having Special Reference to Electrical Methods and the Bearing of the Doctrine of Equivalents on Function and Method.

49. Boughton, S. J.	New Uses of Old Inventions.
50. Townsend, W. W.	A Test of the Legitimacy of Methods.
51. Benson, A. R.	Scope of the Phrase "Descri Printed Publication."
52. Hopkins, F. M.	Endorsements and Cross Refe
53. Minnick, A.	The Claim as a Definition of I
54. Morris, B. N.	Comments upon the Prolong ency of Applications in tl Office.
55. Pratt, W. R.	Multiplicity of Claims.
56. Ely, G. S.	Chemical Inventions and Di
57. Shaffer, C. H.	Double Patenting.
58. Whitten, W. H.	Practice in Cases Involving
59. Jewett, N. J.	The Office and Patent Validit
60. Mason, F. F.	Building Structures as "Manuf
61. Rehm, R. C.	Identity of Invention in Ap for Reissue.
62. Simpson, G. R.	Patents, Commercial and Oth
63. Coulston, M. H.	Considerations Appertaining t stitution of Interferences.
64. Ruckman, W. S.	An Applicant's Statutory from Adverse Decisions.
65. Lovell, R. F.	Double Patenting, with Rel Co-Pending Applications.
66. Collins, E.	New Matter.
67. Pittman, F. L.	New Matter in Reissue Applic
68. Cowles, A. W.	A Phase of Double Patenting.
69. Grove, S. D.	Non-Analogous Use.
70. Whitney, M. L.	Reference Characters in Clai
71. Glascock, E. S.	The Necessity of Limiting the the Real Invention Follow Discussion of the Class Treated in the In re McN of Decisions.
72. Ide, G. R.	Patents and the Preparation an cution of Applications b cants Themselves.
73. Lane, C. H.	The Statutory Grounds of Reje
74. Adams, E. W.	The British Form of Patent Cla
75. Ewing, Thomas X	Address before the American Pat Association.
76. Ewing, Thomas	Bearing of the Contract Th Patents on Certain Defens
77. Ewing, Thomas	On Avoiding Interferences Pur the Decision in the Fow Company Case.

129

SUBJECT INDEX.

The numeral in **bold type** before the hyphen refers to the paper as numbered on the preceding pages, and the one in lighter type, following the hyphen refers to the page of the particular paper.

Abandonment of Application, **4**-; **22**-9; **58**-8.
    after winning interference, **73**-14.
    by acts of applicant, **4**-4.
    by failure to complete, **4**-2.
Abandonment of Invention, **22**-; **73**-13.
    actual, **22**-3.
    ways, **22**-4.
Abandonment of claim, not of elements, **34**-16.
Abstracts, of titles to applications, **2**-13.
Accident, ground for reissue, **15**-24.
Action, after final rejection, **4**-12.
Actions, Observations Pertaining to Examiners, **37**-.
Administrators, **2**-13.
Advertisements, definition, prohibited on drawings, **11**-19.
Affidavits, Establishing Novelty by, **46**-; **73**-2.
    for overcoming references, **11**-20.
    for showing operativeness, **56**-20.
Agency, of Construction in the Courts, **36**-.
Aggregation, discussed, **26**-5; **29**-18; **30**-24; **37**-6; **39**-5, 11; **53**-9; **58**-2; **71**-
Aggregation, Claims for, **26**-.
    Combination *vs.*, **27**-.
    in process, **9**-10; **28**-30.
Allowance, amendment after, **23**-8.
Alternativeness, of language and of structure, **11**-11, 13.
Amendments, after allowance, **23**-8.
    after final rejection, **23**-5.
    completing imperfectly shown invention, **66**-4.
    containing new matter, **23**-11; **66**-9.
    Entry of, **23**-.
    examiner's under Order 1718, **23**-11.
    of drawings, **23**-10; **72**-28.
    permanent ink required, **23**-2.
    to petition, **23**-10.
    unresponsive, **72**-28.
    unsigned, **23**-1.
Analogous arts, how determined, **69**-13.
Apparatus, and products, division, **24**-14.
    function of the, 8-6; **9**-2; **10**-9; **29**-15; **48**-15; **50**-9; **68**-28.
    in method claims, **48**-26.
Appeals, from Commissioner, **64**-5.
    to Board and to Commissioner, **64**-12.
Applicants, Prosecuting own Applications, **72**-.

Application, Abandonment of, 4-; 22-9; 58-8.
  complete in this country, 38-15.
  foreign, as reduction to practice, 21-4; 38-13.
  Formal Objections to, 13-.
  identification of parts in oath, 20-13.
  not filed in foreign country, 20-18.
  renewal of, 4-17.
  revival of, 4-13.
  Scope of Order 2010, 7-.
Applications, definitions of continuing, divisional and substitute, 7-7, 8; 52-3, 5.
  delayed, 23-4.
  Drawing Relating to, 31-.
  Examination of, 47-.
  Foreign, Mentioned in Sections 4886-7, 38-.
  Prolonged Pendency of, 54-.
  Prosecution by Applicants Themselves, 72-.
  Reference to Prior Required, 7-.
  Relation of assignments to, 2-13.
  Shortening Time to Adjudicate, 29-.
Art, analogous, process claim in, 9-7.
  Citation of, Relation of "Novelty" and "Invention" to, 39-.
  history of unnecessary, 72-13.
  old, new use of, 49-3; 73-4.
  persons skilled in the, 11-6; 17-4; 33-27.
  not analogous, effect of so holding, 69-18.
  remoteness, of, 69-16.
  state of, in determining patentability, 73-4, 7.
Article, and process, 28-28; 57-10.
  defined by process, 10-8; 14-21; 48-4.
  by source from which derived, 73-5.
  Machine and, 57-11.
  of manufacture, 12-5; 73-5, 11.
Assignee, correspondence with, 11-1.
  request to issue patent to, 2-9.
  written assent required, 11-2; 22-9.
Assignment, form of, 2-11.
Assignments, conflicting, 2-12.
  indexing and briefing, 2-4.
  of divisional, renewal, reissue, refiled and substitute applications, 2-14; 72-6.
  Records of, 2-.
  record books, 2-1.
  relation of, to applications, 2-12.
  searching, 2-5.
Attorneys, associate or substitute, 11-5.
Austrian Patent Office, 5-15.

Books, assignment records, **2**-1.
Belief, requisites as to, in oath, **20**-13.
Bill in Equity (see Statute 4915).
British Form of Claims, **74**-.
Building Structures as "Manufactures," **60**-.

"Career," in Patent Office, **16**-.
Cases, digest of special with mechanical equivalents, **34**-18.
    divisional, **24-**; **58**-.
    filed same day in interference, **44**-2.
    Special in Interference, **44**-.
    Telephone, **28**-14.
Chemical Inventions and Discoveries, **56**-.
Chemical procedures, factors or variables in, **56**-7.
Circulars, trade, are not publications, **51**-12.
Citation, of foreign patents, **38**-7.
Citizenship, of applicants required in oath, **20**-8.
Claim, as Definition of Invention, **53-**; **71**-4.
    combination, **10**-6; **71**-2.
    construed with rest of specification, **30**-7.
    Necessity of Limiting to Real Invention, **71**-.
Claims, beginning of modern practice, **30**-12.
    British form of, **74**-.
    courts and modern practice, **30**-14.
    decisions concerning, **72**-15.
    duplicate, **55**-15.
    employing terms "Means," "mechanism," and functional statement, **29**-17; **30**-30; **32**-7; **36**-14; **45**-; **73**-17.
    for Aggregation of Elements (see Aggregations).
    foreign practice, **30**-1.
    Functional Statements in, **10**-.
    Functional and Mechanical Processes, **32**-.
    genus and species, **11**-15.
    growth of modern, **30**-11.
    History and Purpose of, **30**-.
    in participial form, **30**-12.
    Marginal with Respect to Invention, **19**-.
    method, apparatus in, **48**-26.
    Multiplicity of, **55**-.
    omission of elements in, **14**-16.
    patents limited to, **34**-10.
    product, **10**-8.
    Reference characters in, **70**-.
    required to distinguish between old and new, **30**-5.
    right to make, in interference, **44**-5.
    sub-combination, **48**-31; **71**-5.
    suggested for interference, **11**-21; **21**-6; **25**-6.

- Claims—Continued.
  - to Method, Test of Legitimacy, **50**-.
  - too broad, **9**-5; **14**-15; **30**-26; **32**-9; **73**-24.
  - two periods in, **30**-4.
- Classes of invention, statutory, **48**-4.
- Classification, beginning of revision, **1**-2.
  - definition of scientific, **1**-4.
  - of Patents, **1**-.
  - precedents and authorities, **1**-3.
  - principles of, **1**-4.
  - procedure in examining divisions, **1**-37.
  - rules of, **1**-26.
- Combination claims, **10**-6; **26**-6; **73**-5.
  - Consideration of the Term, **6**-.
  - cooperation necessary, **30**-24.
  - invention in, **19**-9; **30**-22.
- Combinations, unrelated and related, **24**-10.
  - *vs.* Aggregations, **27**-; **29**-14.
  - with specific elements, **24**-13; **29**-18; **71**-24.
- "Composed of," "comprising," "consisting of," "containing," **14**-17.
- Composition, and method of using, division required, **24**-13.
- Composition of Matter, **14**-.
  - definition, **14**-2.
  - defined by process of making it, **14**-21.
  - new use of, **49**-10.
- Concession of priority, **4**-6.
- Construction, Benignant Agency of, in Courts, **36**-.
- Contract, Patent is, **33**-4;
  - Theory Bearing on Defenses, **76**-.
- Copyrights, distinguished from patents, **12**-1.
- Corporations, value of patents in, **62**-4.
- Correspondence, double not allowed, **11**-3.
- Courts, Benignant Agency of Construction in, **36**-; **71**-8.
- Cross References, and Endorsements, **7**-; **11**-8; **52**-.
  - only, **52**-6.

- Date of oath, **20**-22.
  - of patent, **38**-1.
- Dates, identical in interference, **44**-4.
- Decisions, Adverse, Applicants Statutory Remedies, **64**-.
  - and Orders, Pertinent, **11**-.
  - before constitution of U. S., **47**-7.
  - concerning art at early period, **30**-4.
  - conflict of in reissues, **15**-21.
  - early ones, **30**-18.
  - of commissioners concerning claims, **30**-12.
  - on electrical methods, **48**-13.
  - relating to drawings, **31**-8.
  - under act of 1836, **30**-10.

2134

Defenses, Bearing of Contract Theory on, **76**-.
Definition of Invention, Claim as a, **53**-.
Delay, in filing application, **21**-3.
  in restricted reissues, **15**-23.
  less and more than two years for reissue, **15**-28.
  reissue applications, **15**-15.
"Described in Printed Publication," **20**-16; **51**-.
Design and mechanical patents, **68**-34.
  Patentable, **43**-.
  not patentable, **43**-6.
Designs, **34**-16.
Devices, related and unrelated, division, **24**-7, 8.
Digest of cases involving mechanical equivalents, **34**-18.
Disclaimer, constructive, **4**-7.
  in British patents, **74**-5.
  in interference, **4**-7.
Disclosure, complete, of alleged invention, **47**-15; **48**-2.
  by drawing, **51**-3.
  verbal, **46**-4; **51**-3.
Discoveries, Chemical Inventions and, **56**-.
Dissolution of interferences, advanced cases, **44**-8.
  patent invalid, **44**-6.
Distinction, patentable, **57**-8.
Division, compositions and method of using, **24**-13.
  election of invention by, **58**-15; **72**-21.
  involving "function of the apparatus" claims, **10**-11.
  not required in renewal or reissue applications, **58**-3, 4.
  not required in related devices, **24**-8.
  Practice in Cases Involving, **58**-.
  Practice Relating to, **24**-.
  process and apparatus, **24**-14; **58**-5.
  product and apparatus, **24**-14.
  product and process, **24**-15.
  required between modifications, **24**-13.
  required in unrelated devices, **24**-7.
  requirement for, appealable to Board, **58**-9.
Divisional application, new matter in, **66**-9.
Double Patenting, **48**-13; **57**-; **65**-; **73**-15.
  a Phase of, same disclosure, **68**-.
  claims for combination and an essential element thereof, **65**-19.
  claims of same form but different scope, **65**-4.
  broad claims in first patent to issue, **65**-9.
    in last case issued but first filed, **65**-12.
    in last case issued and last filed, **65**-16.
  design patents, **68**-34.
  interference, **68**-34.
  office practice, **57**-18.

Double Patenting—Continued.
  genus and species, **57**-2, 14.
  patentable distinction, **57**-8.
  process and apparatus or article, **65**-3; **68**-17, 21, 23.
  reissue to avoid, **48**-16; **57**-2.
  special cases in, **65**-21.
Double use, **17**-11; **19**-11; **34**-15; **69**-1; **73**-6.
Doubts, resolved in favor of applicant, **17**-15; **73**-1.
Drawings, **31**-; **72**-21.
  amendments of, **23**-10; **72**-28.
  disclosure by, **51**-4.
  lettering the, **11**-18; **13**-4; **31**-3.
  shading, **31**-3, 4.
  solid black, **31**-4.
  unnecessary views, **31**-3.
Duties, Observations Pertaining to Examiners, **37**-.

Eagle, ex parte, **18**-.
Election of invention, **58**-15.
Element, invention in new, **29**-18; **30**-22.
Elements, claims for aggregations of, **26**-.
  specific, combination with, **24**-13; **26**-8; **29**-18; **71**-24.
Endorsements and Cross References, **7**-; **52**-.
Entry of Amendments, **23**-.
Equivalents, chemical, **56**-5, 13.
  doctrine relating to function and methods, **48**-17.
  in improvements, **34**-9; **56**-13.
  Mechanical, **34**-.
  primary inventions, **34**-7; **56**-5.
  substitution of, **34**-14; **48**-28.
  test of, in unpatentable combinations, **48**-18.
  wire and carbon rheostats are, **48**-31.
Evidence, in foreign countries, **44**-14.
  three or more parties in interference, **44**-11.
Examination of alleged invention, **47**-17; **72**-24.
  of applications, **4**-9; **47**-.
Examiner, amendment under Order 1718, **23**-11.
Examiner's Duties and Actions, **37**-; **73**-1.
Executors, **2**-13.
Expressions, some permitted, **13**-11.

Failure to prosecute application, **4**-8.
Fees, under act of 1836, **64**-4.
File Wrapper, Endorsements on, **7**-; **52**-.
"First, original and," inventor, **20**-11.
Foreign applications, as reduction to practice, **38**-13.
  proof of, **38**-15.
Foreign Patents and Applications, **38**-; **73**-16.

- Form, claims in wrong, **50**-10.
  - matters of, **13**-; **29**-5; **37**-7; **47**-14; **54**-4.
- Fowler Car Coupler Case, **77**-.
- Function, broad and specific, **48**-20.
- "Function of the apparatus," 8-6; **9**-2; **10**-9; **29**-15; **48**-15; **50**-9; **68**-28.
- Function, statement of, in claims employing terms "means," "mechanism," **29**-17; **30**-30; **32**-7; **36**-14; **45**-; **73**-17.
  - *vs.* method, **48**-23.
- Functional claims, so-called, **48**-21.
  - why defective, **10**-2.
  - partially reciting structure, **10**-4.
- Functional expressions, adjunctive, **10**-5.
  - permissible or necessary, **10**-5.
- Functional statements in claims, **10**-; **29**-17.

- Genus and species, division not required, **24**-12; **57**-14; **58**-12.
- German Patent Office, **5**-2.
  - claim, **48**-27.
- Grounds of Rejection, Statutory, **73**-.

- Hawley doctrine (see aggregation).
- History and Purpose of Claims, **30**-.
- Hungarian Patent Office, **5**-17.

- Identification, of application, in oath, **20**-13.
- Identity, of invention in foreign country, **38**-16.
  - of parties, in res adjudicata, **40**-17.
  - of patentees, **38**-21.
- Illustration of invention, **48**-3.
- Inadvertence, ground of reissue, **15**-24.
- Information given by the office, **11**-3; **72**-6.
- Ink, permanent required, **23**-2.
- Inoperativeness, **54**-8; **56**-20; **73**-8.
  - interference, **44**-13.
- Interference, abandonment after winning, **73**-14.
  - cases filed same day, **44**-2.
  - dates identical, **44**-4.
  - disclaimer in, **4**-7.
  - dissolution, patent invalid, **44**-6.
  - evidence in foreign countries, **44**-14.
  - evidence, three or more parties, **44**-11.
  - inoperativeness, **44**-13.
  - order of parties, **44**-1.
  - priority to first to conceive, reduction same, **44**-2.
  - right to make claims, **44**-5.
  - Special Cases in, **44**-.

- Interferences, **73**-19.
  - Institution of, **63**-; **77**-.
    - errors in, **63**-21.
  - invention must be patentable, **63**-4.
  - invention must be the same, **63**-7.
  - rules of construction, **63**-17.
  - successive, **44**-10.
  - suggesting claims for, **11**-21; **21**-6; **25**-6.
  - suspension of, **44**-6.
- Invention, Abandonment of, **22**-; **73**-13.
  - and Patentability, **12**-; **73**-2.
  - Claim as Definition of, **53**-.
  - definition of, discussed, **17**-5; **19**-2; **37**-9; **39**-17; **53**-6; **56**-1.
  - disclosure of, **48**-2.
  - examination of, **47**-17; **72**-24.
  - How Lost, Pitfalls, **21**-.
  - identity of, in foreign country, **38**-16.
  - in combination and element, **30**-22.
  - in idea, **48**-29.
  - in single feature, **30**-22.
  - illustration of, **48**-3.
  - Marginal Claim with Respect to, **19**-.
  - must be distinguished in claim, **30**-18.
  - Necessity of Limiting Claim to, **71**-.
  - Processes as Subject of, **28**-.
  - Protection of, **48**-.
  - Relation of Citation of Art, **39**-.
  - some cases involving, **17**-11.
  - some improvements which are not, **17**-5.
  - tests for determining, **73**-4.
  - *vs.* Mechanical Skill, **17**-.
  - and Discoveries, Chemical, **56**-.
- Inventions, division required, **11**-15.
  - Old, New Uses of, **49**-.
  - primary, broad range of equivalents, **34**-7.
  - improvements, range more narrow, **34**-9.
- Inventor, citizenship of, **20**-8.
  - oath made by, **20**-3.
- Inventors, joint and sole, **21**-5.
- Issue of patent to assignee, **2**-9.

- Joint inventors, **21**-5.
  - oath as to, **20**-11.
- Judgment must be final for res adjudicata, **40**-9.

- Knowledge, prior, **33**-6.
  - requisites as to, in oath, **20**-13.

Labels, not registrable, **42**-5.
  publication, **42**-2.
  Registration of, **42**-.
  title, **42**-6.
Laches, in reissue applications, **15**-15.
  foundation of doctrine, **15**-18.
Legislation, proposed, concerning construing mechanical equivalents, **34**-13.
Legitimacy, Test of, Method Claims, **50**-.
Letters Patent, Examination of Applications for, **47**-.

McNeil case (see aggregation).
Machine, and article, **57**-11.
  and process, **57**-12.
  old, new use of, **49**-4.
Manufacture, article of, **12**-5.
  as Subject Matter of Patent, **60**-.
  old, new use of, **49**-8.
Material acted upon causing cooperation, **27**-7.
Matter, composition of, **14**-.
  new, **48**-2.
  of advertising nature, **72**-13.
Matters, of substance and of form, **13**-; **29**-5; **37**-7; **47**-14; **54**-4.
"Means," "Mechanism" (see Function, statement of, etc.).
Mechanical Equivalents, **34**-.
  definition, **34**-3.
  history, **34**-1.
  in combinations, **34**-14.
Mechanical Methods or Processes, **8**-; **9**-; **28**-17; **32**-.
Mechanical Skill, Invention *vs.*, **17**-.
Merits, Action on, **37**-.
Methods, of doing business, **12**-4; **28**-32.
  of Shortening Time to Adjudicate Applications, **29**-.
Mistake, ground for reissue, **15**-24.
Modifications, number of, **18**-2.
Mullen and Mullen decision, **57**-4; **65**-5.
Multiplicity of Claims, **13**-8; **55**-.

Name, full first, must be given, **11**-13.
Neilson case, **36**-5; **50**-2.
New element, invention in, **30**-22.
New Matter, **66**-.
  amendments containing, **23**-11; **66**-9; **72**-29.
  in divisional applications, **66**-9.
  in Reissue Applications, **67**-.
  omitting element may be, **66**-7; **67**-6.
New result, degree patentable, **36**-13; **45**-10; **48**-30.

New Uses of Old Inventions, **49**-.
Non-analogous arts, examples of, **69**-11.
Non-Analogous Use, **69**-.
Notice, concerning prior art, **47**-30.
Novelty, **33**-; **73**-8; **76**-15.
  Establishing by Affidavits, **46**-; **73**-2.
  Relation of, to Citation of Art, **39**-.
Numerals, reference, **48**-3; **70**-.

Oath, before whom taken, **20**-23.
  date of, **20**-22.
  made by inventor, **20**-3.
  must be subscribed to by affiant, **20**-23.
  not necessary originally, **20**-1.
  prerequisite to grant, **20**-2.
  venue, **20**-7.
  Required by Rule 46, **20**-; **72**-24.
  supplementary, **11**-16; **72**-28.
Objections, Formal, **13**-; **29**-5; **37**-7; **54**-4.
Office, information and advice given by, **11**-3; **72**-6.
Orders and Decisions Relating to Some Rules, **11**-.
Orders—
  600 and 2018, **11**-14.
  1135, **31**-7.
  1718, **23**-11.
  1832, 2010 and 2071, **7**-; **11**-9; **52**-.
  1958, **31**-7.
  1961, **54**-6.
  2112, **31**-7.
  2115, **58**-9.
  2125, **58**-1.
"Original and first," inventor, **20**-11.
"Ornamental" for designs, **43**-3.

Patent, date of, **38**-1; **76**-17.
  definition of, **76**-10.
  invalid, dissolution of interference, **44**-6.
Patent Office, and Validity, **59**-.
  Career in, **16**-.
  German, Austrian and Hungarian, **5**-.
Patent, request to issue to assignee, **2**-9.
  secret, **38**-5.
Patent system, causes of criticism of, **47**-36.
  Fundamental Principles, **47**-.
Patentability, Invention and, **12**-; **73**-2.
  of designs, **43**-.
Patentable Processes, **8**-; **9**-.

Patented, not in foreign country, **20**-18.
Patentees, who may be, **72**-4.
Patenting, Double, **48**-13; **57**-; **65**-; **73**-15.
Patents, as Contracts, **76**-6.
  Classification, of **1**-.
  Commercial and Otherwise, **62**-.
  delay in granting, **75**-3.
  for projectiles, discussed, **37**-10.
  foreign, citation of, **38**-7.
    Mentioned in Sections 4886-7, **38**-.
  generic and specific, **57**-14.
  limited to what is claimed, **34**-10.
  pioneer, **36**-14, 17; **45**-9.
  prior, **33**-18.
  Record of Assignments, **2**.
Pendency of Applications, Comments on Prolonged, **29**-; **54**-.
"Persons skilled in the art" (see Art).
Petition, amendments to the, **23**-10.
Pioneer patents, **36**-14, 17; **45**-9.
  reference characters in claims of, **70**-3.
Pitfalls, Invention Lost, **21**-.
Practice, modern, with respect to claims, **30**-12, 14.
  office, in double patenting, **57**-18.
  Relating to Division, **24**-; **58**-.
  under first reissue statute, **15**-6.
Principle, not patentable, **36**-6.
Principles, anticipation, **47**-6.
  constitutional, **47**-9.
  contractural, **47**-7.
  educational, **47**-5.
  essentials in application of, **47**-13.
  non-monopolistic, **47**-3.
  some applications of elementary, **47**-21.
Printed Publication, prior, **33**-23; **73**-25.
  Scope of Phrase, **51**-.
Prints, publication, **42**-2.
  Registration of, **42**-.
  title, **42**-6.
Prior art, notice conerning, **47**-30.
  knowledge, **33**-6; **73**-11.
  patents, **33**-18.
  printed publications, **33**-23.
  use, **33**-6.
Priority, interference, same reduction, **44**-2.
Process and apparatus, division required, **24**-14.
  independence of, **48**-13.

Process, article and, **32**-2; **50**-8; **57**-10.
    article defined by, **10**-8; **14**-21; **48**-4.
    carried out by nature, not patentable, **9**-4.
    claim, too broad, **9**-5.
    claim, when patentable, **9**-13; **73**-11.
    definition, **8**-1; **9**-1.
    function *vs.*, **48**-23.
    in apparatus claims, **48**-24.
    machine and, **36**-11; **57**-12.
    Mechanical, **8**-; **9**-.
        and Functional Claims, **32**-.
    old, new use of, **49**-3.
    or Method, **48**-5, 27.
Processes, aggregations of, **9**-10.
    Claims to, Test of Legitimacy, **50**-.
    electrical, **48**-6.
    decisions on, **48**-12.
    examples of unpatentable, **9**-8.
    Subject of Invention, **28**-.
    using expansible fluid, **32**-7.
    without producing tangible product, **32**-7.
Product claims, **10**-8.
    claimed by method, **10**-8; **14**-21; **48**-4.
Production, accidental, **33**-12; **56**-16.
Prosecution, failure of, **4**-8.
    inventors, **72**-.
    Securing Promptness in, **29**-10; **54**-.
Protection of Invention, **48**-.
Proof, burden of, **33**-27.
Public Use or Sale, **3**-; **20**-16; **73**-13; **76**-16.
    burden of proof for, **3**-7.
    patent office procedure, **3**-8.
    when instituted, **3**-10.
Publications, foreign, **33**-25; **38**-8.
Purpose and History of Claims, **30**-.

Reconsideration, request for, **72**-27.
Records of Assignments, **2**-.
Reduction to practice, foreign application as, **38**-13.
    simultaneous, **44**-2.
Reference Characters in Claims, **70**-.
References, combination of, in rejecting claims, **73**-7; **76**-21.
    to Prior Applications, **7**-; **52**-.
    in interest of people, **47**-20.
Registration of Prints and Labels, **42**-.
        descriptiveness, **42**-4
        of Trade-marks, **41**-4

Reissue, combinations in, **61**-5.
  for method and apparatus, **36**-11; **61**-7; **67**-10.
  New Matter in, **67**-.
Reissue statute, evils and remedies therefor, **15**-12.
  first, **15**-5.
Reissues, before first reissue statute, **15**-1; **67**-2.
  Certain Phases of, **15**-.
  division not required, **58**-4.
  invalid or insufficient, **21**-8; **61**-5, 7.
  Identity of Invention in, **61**-.
  intervening rights, **15**-23; **61**-9.
  process and product, **61**-7; **67**-10.
  restricted, delay of little consequence, **15**-21.
Rejection, final, action after, **4**-12.
  amendments after, **23**-5; **72**-29.
  of claim for an aggregation, **26**-3.
  res adjudicata, ground of, **35**-.
  Statutory Grounds of, **73**-.
Remedies, Statutory, from Adverse Decisions, **64**-.
Renewal, of application, **4**-17; **73**-18.
  division not required, **58**-3.
Res Adjudicata, **40**-.
  effect of a difference of forum, **40**-39.
  Ground of Rejection, **35**-.
  in interference, **73**-21.
  on question of division, **58**-18.
  preliminary definition of, **40**-2.
  prior judgment, must be final and on merits, **40**-9, 10.
  specific consideration of, **40**-5.
  subject matter in, **40**-19.
Residence, of applicant, required in oath, **20**-10.
Result, new, **36**-12; **45**-10; **48**-30.
  accidental, **56**-16.
Revival of application, **4**-13.
Right, transfer of trade-mark, **41**-3.
Rules of construction in interference and infringement cases, **63**-17.
RULES:
 Rule 5, **11**-1; Rule 6, **11**-2; Rule 8, **11**-3; Rule 14, **11**-3; Rule 17, **54**-4; Rule 19, **11**-5; Rule 34, **11**-5; **13**-1; Rule 35, **14**-9; Rule 37, **11**-11; **53**-1; Rule 40, **11**-13; Rule 41, **24**-6; Rule 42, **11**-14; **18**-3; **58**-1; Rule 43, **52**-7; Rule 46, **11**-15; **20**-; Rule 47, **66**-8; Rule 48, **11**-16; Rule 50, **11**-17; Rule 52, **11**-18; Rule 64, **58**-7; Rule 65, **37**-4; Rule 66, **37**-4; **39**-21; Rule 67, **58**-8; Rule 68, **29**-9; **37**-2; **39**-21; **54**-4; **55**-18; Rule 69, **66**-2; Rule 70, **31**-7; **66**-2; Rule 75, **25**-1; **33**-21; **46**-1; **47**-34; **76**-23; Rule 78, **23**-8; Rule 89, **58**-4; Rule 93, **47**-30; Rule 94, **25**-6; Rule 96, **25**-6; Rule 109, **55**-19; Rule 124, **25**-20; Rule 125, **22**-9; Rule 134, **29**-10.

Sale, public, **3-**; **73**-13.
Schroeder, patent criticism, **34**-12.
Search, in cases requiring division, **58**-6.
Secret patents, **38**-5.
Sole inventor, oath as to, **20**-11.
Sole inventors, **21**-5.
Specification, claims construed with, **30**-7.
Specifications, criticisms of, **13-**; **72**-10.
Statements, functional, in claims, **10**-.
  laudatory and derogatory, **72**-13.
Statute of Monopolies, **76**-4.
Statutes, act of 1836, **30**-10; **64**-1.
  act of 1870, **64**-18; **67**-2.
  acts of 1790 and 1793, **30**-5; **33**-5; **64**-1.
Section 4886, **26**-9; **33**-4; **38-**; **73**-1; **76**-12.
Section 4887, **38-**; **22**-1; **73**-16.
Section 4888, **13**-1; **26**-8; **39**-16; **47**-25; **53**-1.
Section 4892, **33**-4.
Section 4893, **47**-17, 24.
Section 4894, **4**-8; **54**-10; **64**-21.
Section 4897, **4**-16; **21**-4; **22**-1; **73**-18.
Section 4903, **39**-18; **47**-20.
Section 4904, **29**-9; **47**-30; **63**-1; **73**-19; **77**-6.
Section 4909, **29**-9.
Section 4915, **63**-2; **64**-19.
Section 4916, **15-**; **67**-2; **73**-23.
Section 4918, **64**-19.
Section 4920, **22**-1; **33**-4; **40**-42; **73**-25; **76**-18.
Section 4923, **33**-13; **73**-26.
Section 4929, **43**-1.
  questions under 4887, **38**-9.
  reissue, first, **15**-5.
Sub-combination, not protected by combination claims, **48**-31.
  when divided from combination, **24**-5, 10.
Sub-Process, **28**-32.
Substance, matters of, **47**-14.
Substitution, of equivalents, **34**-14.
  unobvious, **48**-28.
Suspension of interference, **44**-6.
System, Patent Development of Principles, **47**-.
Systems or methods of doing business, **12**-4.

Terms, choice of, by applicant, **72**-15.
Theory of operation immaterial, **72**-15.
Time, Shortening of, for Applications, **29-**; **54**-.
Title, abstracts of, **2**-13.
  of invention, accurate required, **13**-5.
  of prints or labels, **42**-6.

144

Trade-marks, **41**-.
        registration of, **41**-4.
        transfer of rights, **41**-3.

Use, double, **17**-11; **19**-11; **34**-15; **69**-1; **73**-6.
      in foreign country, **33**-14; **73**-26.
      new, of composition of matter, **49**-10.
            of old art, or process, **49**-3.
                  machine, **49**-4.
                  manufacture, **49**-8.
Use, New, of Old Inventions, **49**-.
      Non-Analogous, **69**-.
      none prior, **20**-15.
      prior, **33**-6; **73**-11.
      Public, **3**-; **20**-16; **73**-13; **76**-16.
      secret, **33**-7.
Utility, **73**-9.

Validity of Patents, Importance of, **59**-.
Views of drawings, too many, **31**-3.

Harry J. [illegible]

UNITED STATES PATENT OFFICE

THE CLASSIFICATION OF PATENTS

WASHINGTON
GOVERNMENT PRINTING OFFICE
[illegible]

UNITED STATES PATENT OFFICE

THE CLASSIFICATION OF PATENTS

DEPARTMENT OF THE INTERIOR

WASHINGTON
GOVERNMENT PRINTING OFFICE
1915

PREFATORY NOTE.

Parts A and B of the following pages are designed to acquaint all persons using the Patent Office classification with the principles upon which the reclassification is proceeding.

Part C consists of a few tentative rules advanced with the notion of fixing classification practice within the office in certain doubtful cases.

Part D is intended to inform examiners reclassifying within examining divisions respecting the initial procedure in reforming a class.

CONTENTS.

	Page.
A. Introduction	1
Past classifications of the U. S. Patent Office	1
Beginning of revision	2
Precedents and authorities	3
Definition of scientific classification	4
B. Principles of the new classification of the Patent Office	4
Elements of a Patent Office classification	4
Basis of classification	5
Art as a basis	5
Function or effect as a basis	7
Structure as a basis	8
Division and arrangement	9
Infinitude of possible combinations	10
Division and arrangement in the natural sciences	10
Difficulty of entitling a subclass corresponding to every combination	11
Expedients to reduce the number of subdivisions	12
Superiority and inferiority	15
Definite positional relationship of subdivisions	16
Indented schedules	17
Bifurcate division	19
Utility of arrangement according to resemblances	19
Definition	20
Cross-references and search-notes	21
Diagnosis to determine classification	22
Claimed or unclaimed disclosure	22
Diagnosis of pending applications	23
Difficulties due to varying ideas of claims	25
C. Rules of classification	26
Basis of classification	26
1. "Art" as the basis	26
2. Operative or manipulative arts	26
3. Structures	26
4. Composition of matter and formed stock	26
Division and arrangement	27
5. Exhaustive division; miscellaneous subclass	27
6. Subclasses not to overlap	27
7. Subclasses of any group to be formed on one basis	27
8. Apparent exception to rules 6 and 7	27
9. Relative position of subclasses	27
10. Indention of subclasses	29
11. Different kinds of titles for subclasses	29
12. Arrangement to limit search and cross references	30
Definition	30
13. Tentative definition	30
14. How to define	30
15. Explanatory notes may sometimes displace definition	31

C. Rules of classification—Continued. Page.
Cross-references and search-notes ... 31
16. Impossibility of cross-referencing all disclosures ... 31
17. Occasion and direction of cross-referencing ... 31
18. Occasion and scope of search-notes ... 32
Diagnosis to determine classification ... 32
19. Patents diagnosed by claimed disclosure ... 32
20. Patents diagnosed by most intensive claim ... 33
21. Exception to rule 19, claim for a part of a disclosed combination. 33
22. Exception to rule 19, claims for a part of a disclosed combination. 33
23. Exception to rule 19, generic combination old as matter of common knowledge ... 34
24. Exception to rule 19, article of manufacture defined only by material ... 34
25. Exception to rule 19, utilizing a composition ... 34
26. Exception to rule 19, utilizing a machine ... 34
27. Patents having claims for several different inventions ... 35
28. General rule of superiority between statutory kinds of invention. 35
29. Exception to rule 28 ... 35
30. Process and apparatus ... 36
31. Article of manufacture and instrument for making a part of it or performing any minor act relative thereto ... 36
32. Process and product where search for the process would have to be made among machines ... 36
33. Process and product where search for the process would have to be made among products ... 36
34. Process of making a composition and the composition where the process is peculiarly adapted to make the composition.... 37
35. Article of manufacture or composition and process for making one of the parts of the article or ingredients of the composition. 37
D. Procedure in reclassifying within examining divisions ... 37
1. General attitude ... 37
Procedure involving only cursory scrutiny of familiar patents—
2. Consider wholes in forming tentative subdivisions of subclasses.. 38
3. Write tentative definitions of subdivisions ... 38
4. Consider the significance of analogies found to traverse parts of two or more existing subclasses ... 38
5. Arrange groups on parallel or accordant lines where practicable.. 38
6. Watch for subcombinations deserving separate recognition..... 38
7. Consider whether the groups collectively will constitute a proper class and their best correlation ... 38
Procedure involving rigorous analysis—
8. Diagnose each patent for original classification ... 39
9. Group and consider the disposition of patents deemed foreign to the class ... 39
10–15. Consider and indicate cross-referencing within and to and from the class ... 39, 40
Note ... 40

THE CLASSIFICATION OF PATENTS.

(A) INTRODUCTION.

Classification lies at the foundation of the mental processes. Without the power of perceiving, recognizing resemblances, distinguishing differences in things, phenomena and notions, grouping them mentally according to those resemblances and differences, judgment is impossible, nor could reason be exercised in proceeding from the known to the unknown.

* * * * * * *

The facilitation and abbreviation of mental labor is at the bottom of all mental progress. The reasoning faculties of Newton were not different in qualitative character from those of a ploughman; the difference lay in the extent to which they were exerted and the number of facts which could be treated. Every thinking being generalizes more or less, but it is the depth and extent of his generalizations which distinguish the philosopher. Now it is the exertion of the classifying and generalizing powers which thus enables the intellect of man to cope in some degree with the infinite number and variety of natural phenomena and objects. (Jevons, Principles of Science.)

PAST CLASSIFICATIONS OF UNITED STATES PATENT OFFICE.

As under the patent laws the people of the United States assume all the risks in granting a patent for any means of the "useful arts," a classification that will facilitate a judgment respecting the patentability of any means presented to the Patent Office is of peculiar moment. The enormous extent, diversity, and refinement of the useful arts preclude the formation of a judgment on novelty within a reasonable time, unless the necessary comparisons with known processes and instruments have been previously made along the lines that searches must follow and the results of such comparisons made available in a classification. The vast majority of available disclosures of the arts occur in patents. Hence the Patent Office classification must be adjusted in the main to the analysis, diagnosis, and orderly arrangement of the disclosures of patents.

For more than 80 years United States patents have been classified. The first published classification, promulgated in 1830, comprised 6,170 patents, divided into 16 classes. The change from a registration to an examination system in 1836 instigated a new classification in 22 classes, including 9,800 patents. The next came in 1868 with 36 classes, including about 75,000 patents. On March 1, 1872, a revised classification was adopted, comprising 145 classes, including 131,000 patents. This classification is said to have been planned by Dr. Edward H. Knight. The placing of the patents in accordance with the schedule of classes is said to have been done by the several examiners. The class arrangement was purely alphabetical by class titles, and the number designations followed the alphabetical order. The names of things to be found in the several classes were arranged alphabetically under each class title. No attempt was made to bring the titles of allied materials into juxtaposition or to effect other definite arrangement with reference to subject matter in the printed schedules. A consolidated name index supplemented the list of names by classes.

This classification of 1872 is in part the classification that now exists, many of the same class numbers and titles being still in use. Examiners were apparently permitted to make changes in classification to suit their convenience without notice until 1877. In that year a revision of the published schedule was made by a committee, resulting in the addition of 13 new classes, and examiners were ordered to transfer patents in accordance with the new titles. The first classification published with distinct subclasses appeared in 1880. From that time until 1898 the classification grew by addition and subdivision of classes to suit the ends of individual examiners or in response to supposed exigencies of the work where one division was thought to be overloaded and another underloaded, and the alphabetical arrangement of subclasses under each class has succeeded the alphabetical list of names. The arbitrary correspondence originally established between the alphabetical order of class titles and the numerical order was destroyed as soon as expansion of the classification began.

However suitable to the then-existing material of the useful arts the classification of 1872 may have been, it failed as fail all inductive processes wherein the generalizations are not broad and deep. (Isaac Newton's intellect could detect the resemblance between the falling fruit and the motions of the planets.) The classification of 1872 was not exhaustive; it failed to recognize to the fullest extent what Bishop Wilkins saw nearly 300 years ago, to wit, that there are "arts of arts;" and it failed to provide for future invention of new species in the same art, and to recognize that new arts could be formed from combinations of the old.

BEGINNING OF REVISION.

The Classification Division was created in the hope that guiding principles of classification could be developed and applied for the purpose of amending or revising the classification whereby patents could be placed with greater assurance, and whereby the searcher with these guiding principles in mind might find the nearest references. It was confronted with the problem of revising while at the same time keeping accurate record of all changes, correcting all indexes of patents, and using copies in constant demand for search at the same time, necessitating much clerical work, and constant interruption—of correcting rather than planning anew; of mending a machine while constantly increasing duty was required of it.

Ideas on the subject of revision were called for by the Commissioner of Patents, and all in the Patent Office had an opportunity to set forth their notions. The views of one met with approval and in accordance with those views a "Plan of Classification" was prepared and promulgated in 1900. What other plans may have been submitted is not now generally known. But in substantial accordance with that published plan, the process of revision has proceeded for more than 14 years until approximately 50 per cent of the patents (including incomplete work) have been placed in revised classes.

PRECEDENTS AND AUTHORITIES.

No effective precedents have been found in any prior classifications of the arts. The classifications of the principal foreign patent offices have not been materially different in principle from the United States Patent Office classifications of the past.

The divisions found suitable for book classification for library use, have not been deemed adequate to the exactness and refinement essential to a patent office classification of the useful arts. The systems of class and subclass sign or number designations of the modern library classifications, with their mnemonic significance, afford the most important suggestions to be drawn from library classification. None of these systems of designation has been adopted, (1) because of a serious doubt as to the availability of such designations by reason of the length or unwieldiness to which they would attain in the refinements of division necessary in a patent office classification, and (2) because of the enormous amount of labor necessary to make the change from present practice.

The best analogies are in the known (but changing) classifications of the natural sciences, and in them the problems are so different that they can serve only to illustrate general principles. The broad principles of classification are well understood. The authorities are the logicians from the ancient Aristotle to the modern Bentham, Mill, and Jevons. The effort of the Classification Division has been to adapt and apply these well-known principles to the enormously diversified useful arts, particularly as disclosed in patents and applications for patents.

DEFINITION OF SCIENTIFIC CLASSIFICATION.

It may be well to insert here an authoritative definition: "A scientific classification is a series of divisions so arranged as best to facilitate the complete and separate study of the several groups which are the result of the divisions as well as of the entire subject under investigation." (Fowler, Inductive Logic.)

Investigation and study of any subject will be facilitated if the facts or materials pertinent to that subject be so marshaled and arranged that those most pertinent to it may appear to the mind in some form of juxtaposition. It is the purpose of the Patent Office classification to divide and arrange the body and multitudinous units of the useful arts so that, having the question of novelty of any defined means to answer, one may with reasonable assurance approach that portion of the rank of arts in which it will be found if it is not new, and in propinquity to which will also be found those means that bear the closest resemblances to that sought for, the resemblances of other units growing less in proportion to their distance therefrom.

Success in the fundamental aim of facilitating adequate search should evidently at the same time reduce proportionately the danger that interfering applications will be overlooked and also effect a distribution of labor favorable to the acquisition of special skill.

(B) PRINCIPLES OF THE NEW CLASSIFICATION OF THE PATENT OFFICE.

THE ELEMENTS OF A PATENT OFFICE CLASSIFICATION.

A classification will be useful in proportion (1) to the pertinence to the subject under investigation of the facts selected to be grouped together, or, in other words, in proportion to the appropriateness of the "basis of classification" to the subject in hand; (2) to the convenience, stability, and uniformity of the arrangement of the subdivisions whereby the investigator may proceed with reasonable assurance to that portion of the rank of groups within which he will find cognate material; (3) to the accuracy and perspicuity of the definitions of the several divisions and subdivisions; (4) to the completeness and reliability of the cross-referencing and cross-notations; (5) to the uniformity, feasibility, and certainty of the rules by which the accessions of patents disclosing one or several inventions may be diagnosed and distributed to the appropriate divisions of the classification in accordance with the basis adopted.

Corresponding to the foregoing analysis the theory of Patent Office classification may be treated in five parts: (1) The principles on which the arts shall be divided (basis of classification); (2) subdivision and mechanical arrangement of groups; (3) definition; (4) cross-referencing and search-notes; (5) the choice of features by which a patent shall be assigned in the classification (diagnosis).

BASIS OF CLASSIFICATION.

The first and most vital factor in any system of classification is the basis of division, that is, the kind of characteristics common to any number of objects selected to characterize groups, whereby the individuals of any group will resemble each other for the purpose in view more closely than any individual in any group will resemble any individual in any other group.

"There is no property of objects which may not be taken, if we please, as the foundation for a classification or mental grouping of those objects, and in our first attempts we are likely to select for that purpose properties which are simple, easily conceived, and perceptible in a first view without any previous process of thought--but these classifications are seldom much adapted to the ends of that classification which is the subject of our present remarks." (J. S. Mill, System of Logic.)

It is clear that a number of objects may be classified on several different bases. For example, a number of books could be divided into groups (1) according to the subject of their contents; (2) according to the language in which the books are written; (3) according to the size of page; (4) according to the binding material; or (5) according to the color of the binding. Each of these may be useful classifications for some purpose. For the student of literature none is of value except the first; for the connoisseur in bindings, only the last three. A classification of animals including classes of land animals and water animals would hardly suit a student of zoology, as it would associate with the shad and perch such differently organized creatures as the porpoise, whale, and seal. Yet such a classification might prove very suitable for a student of fisheries.

Art as a basis.[1]—So in seeking a basis for a patent office classification the purposes of the classification should be the guide. Allegations of ulterior uses[2] (such as may be made merely because the inventor thought of applying his invention to those uses only, or in an effort to get the application examined in a certain division) and other superficial bases should be avoided. That basis will best suit the purpose which effects such an arrangement as will exhibit in suitable groups the "state of the prior art," by which is here meant not necessarily all the instruments of a trade or industry, or all the articles sold by a shopkeeper, as a stationer, but those means that achieve similar results by the application of similar natural laws[1] to similar substances.

---

[1] An "art," in the sense of a single unitary invention, is a synonym of process, method, and operation. The term "art" is ambiguous in popular usage. In the phrase "useful arts" in the Constitution, it denotes the area of endeavor to which the patent laws apply. When the word "art" is used to specify some fragment of the useful arts, it commonly raises different notions in different minds. It may be correctly used to designate *any* division of the useful arts. It is as proper to speak of the art of grinding or the art of molding as of the art of metal-working or the art of brickmaking.

[2] A "use" is an application of a means to substance to produce an effect which may or may not be the necessary effect of the means in its normal operation. A catalytic may be used to ignite gas or to convert oleins into stearines. An ice pick may be used to hold a chalk line or prick holes in leather, etc.

As all inventions are made with the ultimate object of satisfying some human desire, the utility of an invention appears to be a natural basis of classification. It is apparent, however, that most inventions may contribute to numerous utilities besides the ultimate one. Many processes and instruments intervene between the seed planter and the wheaten rolls upon the breakfast table. The plow may be viewed as an agricultural instrument or as an instrument of civil engineering, according as it is used for preparing the field for planting or rounding a road. A radiating coil of pipe may be thought of as a condenser of steam or of alcoholic vapors, according as it is applied to one material or another; as a cooler or a heater, according to the temperature of a fluid circulated through it. A hammer may drive nails, forge iron, crack stone or nuts. Underlying all of these ulterior utilities, there is a fundamental one to which the normal mind will reach in its natural processes and there rest. The plow loosens or turns over the surface of earth; the coil effects an exchange of heat between its interior and exterior; the hammer strikes a blow. A classification of plows in agriculture, road building, or excavating, according to stated ultimate use; of a radiator coil as a steam condenser, still, jacket-water cooler, refrigerator, or house heater; of the hammer as a forging tool, a nail driver, or a nut cracker, appears to separate things that are essentially alike. But classifying a plow on its necessary function of plowing, a radiator on its necessary function of exchanging heat, a hammer on its necessary function of striking a blow, evidently results in getting very similar things together. Assuming for the moment that utility is a reasonable basis of division of the useful arts, it is deemed more logical to adopt as a basis some utility that *must* be effected by the means under consideration when pút to its normal use rather than some utility that *may* be effected under *some* conditions. Two of the five predicables of ancient logic are property[2] and accident.[3] The capacity of the hammer to strike a blow, the capacity of the radiator coil to exchange heat, are in the nature of properties. The capacity of the hammer to crack nuts, of the coil to condense steam, are in the nature of accidents—something that follows from the impact and the heat exchange because of the particular accidental conditions of operation. To select an accident as a basis of classification is contrary to the laws of thought.

---

[1] By "natural law" in the useful arts is meant that uniformity of action which is manifested whenever any particular substance in any particular condition is brought into such relation with any particular manifestation of energy that the force exerted modifies or prevents modification of the form, nature, condition, or locus of the substance or modifies the manifestation of energy or both.

[2] A "property" may be described as any quality common and essential to the whole of a class but not necessary to mark out that class from other classes. Thus, all wheel tires may be said to possess annularity; but washers and finger rings are also annular. A "peculiar property" is one that not only always belongs to a class of objects but belongs to that class alone; thus a circle has the peculiar property of containing the greatest space within a line of given length, and catalytic substances have the power of setting up chemical reaction without themselves being changed.

[3] An "accident" is any quality that may indifferently belong or not belong to a class without affecting the other qualities of the class. That a man's name is James is an accident telling nothing of the man's physique or character.

It may be said then that the Patent Office classification is based upon "art" in the strict sense in which the word may be said to be used in section 4886, Revised Statutes, but not necessarily in the looser sense of industries and trades. A proper maintenance of the distinction between the word "arts" of the statute and the phrase "industrial arts" used in the sense of industries and trades is essential to an effective classification for the purposes of a patent office search. Similar instruments have been patented in three different classes, because of the statements that one was designed for cooling water, another for heating water, another for sterilizing milk; in four different classes, because of the statements that one apparatus was to separate solids from the gases discharged from a metallurgical furnace, another to separate carbon from the combustion gases of a steam-boiler furnace, another to remove dust and tar from combustible gas, and another to saturate water with carbon dioxid. Owing to the continuance of a classification based largely on remote use, many applications come into the office setting forth inventions of very general application which nevertheless have to be classified more or less arbitrarily in one of several arts in which they may be used but to which they are not limited.

Function or effect as a basis.[1]—Means of the useful arts are related in different degrees. Resemblances selected as bonds for a number of inventions may be more or less close. It is axiomatic that close resemblances should be preferred over looser ones for classification purposes. Processes and instruments for performing general operations, such as moving, cutting, molding, heating, treating liquids with gases, assembling, etc., are more closely bonded than those for effecting the diverse separate successive operations directed toward complex special results, such as making shoes, buttons, nails, etc. Means of the former sort perform an essentially unitary act—the application of a single force, the taking advantage of a single property of matter. Those of the latter sort require the application of several different acts employing frequently a plurality of forces or taking advantage of several properties of matter. In the former case, classification can be based on what has been called function, in the latter it cannot be based on function but can be based on what has been called effect (or product).

---

[1] "Effect" or "result" is the consequence of a process of the useful arts practiced with or without instruments. The effect of an instrument is the effect of its operation. Effects may be direct or indirect, proximate or remote, necessary or accidental.

"Product" is an effect consequent upon a process that changes the form, state, or ingredients of matter perceptibly and permanently, as distinguished from effects that are fleeting or involve no change in perceptible form, state, or ingredients of matter.

"Function" is the "action of means upon an object while producing the effect." (Robinson.) Functions may be direct or indirect, proximate or remote, necessary or accidental. The direct, proximate, or necessary function of the hammer in normal operation is impacting. Indirect, remote, or accidental functions of a hammer may be comminuting, forging, driving, etc.

Function is closely related to cause. It is an axiom of logic that cause is preferable to effect as a basis of those classifications designed for scientific research. Hence the functional basis is preferred in all cases in which it can be applied. A condenser for the fumes of zinc is much more like a condenser for the fumes of acid or the vapor of water than it is like the art of recovering zinc from its ores, and it employs only one principle, to wit, heat interchange. A water-jacket for cooling the walls of a gas-producer or glass-furnace is much more like a water-jacket for cooling the walls of a limekiln or steam-boiler furnace than it is like the art of gas-making or manufacture of glass articles. In accordance with what are thought to be the correct principles, therefore, the zinc-condenser ought not to be classified as a part of the art of metallurgy, nor the water-jacket as a part of the art of gas-making, merely because these instruments have a use in these arts, but should be included, respectively, in classes based upon the more fundamental utilities effected by them.

Although it is evident that molding a button is more like molding a door-knob than it is like making buttons by the combined operations of sawing, grinding, turning, and drilling, wherefore the molding of buttons should be classified in a general plastic art rather than in a special button-making art, yet the making of buttons by a plurality of different kinds of operations can be placed only in a class based upon the product, to wit, button-making. Since, therefore, the combination of many different operations for the production of a specific article can not be classified on the basis of any single function, it must be classified on the basis of product. Thus by selecting essential function as a basis when possible, and resulting effect when the functional basis is not possible, one may approximate to the correct classification described by Herbert Spencer as follows: "A true classification includes in each class those objects that have more characteristics in common with one another than any of them have with objects excluded from the class."[1]

So it is deemed better to classify in accordance with the function or effect it is known a means *must* perform or accomplish than in accordance with the *object* with respect to which an act or acts are directed or in accordance with some *effect* which may or may not result.

Structure as a basis.—The phrase "structural classification" is frequently made use of. The application of the phrase to processes is manifestly absurd. The Patent Office never had a structural classification except in a limited sense. How could a machine, for example, be classified on structure, leaving out of consideration its function and the effect of its normal operation? In the refinements of subdivision, however, it becomes frequently desirable to form minor subdivisions on structural differences. And it may also be that instruments will be presented for classification that are of such general utility as to baffle the efforts of the intellect to attain to the fundamental and necessary function, in which case a structure-defined class may best suit the needs of classification.

---

[1] Classification of the Sciences.

As between a classification based upon structure and one based upon utility, the choice has been for the latter, without prejudice, however, to instances that may arise in favor of the former.

The subject of structural classification will be dropped with a quotation from the original pamphlet "Plan of Classification," etc. (p. 5): "A purely 'structural' classification is almost impossible on account of the infinite variety of mechanical combinations, and to attempt it would probably result in utter confusion, for the classes could not be defined, and the classification would be a mere digest of mechanical elements having no community of function."

DIVISION AND ARRANGEMENT.

Having divided the aggregate of things to be classified into a large number of groups on a satisfactory basis, a most useful work will have been accomplished and the purpose of a classification to assemble the things most nearly alike and separate them from other things will have been partially achieved. Unless these numerous groups are arranged in some definite understandable relation to each other, or are placed in definite known positions where they can be found, the mere formation of the groups, on however good a basis, is not a complete classification. Furthermore, unless the position of each group with respect to those other groups that resemble it in whole or in part is made known, he who wishes to find other related matter must seek aimlessly with no assurance that his quest will end until the whole series shall have been investigated. Each classified group is metaphorically a pigeonhole to contain similar material. If the pigeonholes are properly labeled, one can ultimately locate those that contain the matter he is seeking if he knows the name that has been applied to it. If the pigeonholes are arranged in alphabetical order, for example, he may find all related material, *provided he knows the name of every related group of material*, even though very similar things may bear names as far apart as A and Z. But if all things were so placed that, adjacent and in certain fixed relation to each pigeonhole, other related matter could be found, the resemblances lessening in proportion to the separation, and if the entire area of pigeonholes were divided, and certain areas assigned to certain kinds of things defined in general terms, guessing the location of and desultory search for things that may have different names, but yet be very much alike, would be lessened and all cognate material be bunched. A second vital factor of a system of classification, therefore, is the arrangement of the groups.

Infinitude of possible combinations.—There are now over 1,125,000 United States patents, each presumptively covering a creation of the useful arts that is different from every other. Most of these patents also disclose a plurality of elements or acts. Each of these patented means is potentially an element of a more complex combination that may be patented. When one considers merely the number of forms of energy, the number of known substances and known mechanical elements, and attempts to figure possible combinations and permutations, it becomes apparent that the size of the numbers resulting is incomprehensible. Consider the possibilities of combination also of the enormously varied disclosures of patents. Calculations of the possible combinations and permutations of a small number of objects are familiar. Different combinations of the letters of the alphabet are sufficient to record the sum of human knowledge in many languages. With substantially two octaves of the diatonic scale the world's melodies have been sounded, nor do any doubt that our successors will thrill to airs that we have never heard. "Thirty metals may be combined into 435 binary alloys, 4,060 ternary alloys, 27,405 quarternary alloys" (Jevons). This does not take into consideration differences in proportion that figure so largely in results in the arts of substance-making. The total number of possible alloys of the known metals is incomprehensible. A moment's thought respecting the numbers of the means of the useful arts will alleviate any fears that the possibilities of invention are near the limit and will give food for further thought to all concerned with this attempt to classify the useful arts to the point of refinement necessary to enable this office to pass judgment with reasonable speed and accuracy upon the approximately 75,000 applications filed each year.

Division and arrangement in the natural sciences.—Some of the natural sciences are said to be in what is known as the classificatory stage of development. In some sciences the subject of classification has been predominant and these furnish excellent examples of scientific classification.

The much-admired classifications of zoology, botany, and mineralogy are among the best available models of logical division,[1] systematic and analytical arrangement. The most casual consideration of these classifications, however, renders apparent the relative simplicity of the task of classifying natural objects differentiated by fixed natural laws as compared with the task of classifying the products of the creative and imaginative faculties as applied to the useful arts. The chimera and other animal monsters occur only as figments of the mind. Zoological classification does not have to classify combinations of birds, fishes, reptiles, and mammals, nor does it deal in the way of classification with the parts of animals, nor is the question of absolute numbers of instances a matter of moment to such a classification, all of the members of a species being alike for classification purposes. But any instrument of the useful arts may be combined with some other, any part with some other part. Organizations may be parts of some other organizations, or even mutually parts of each other, as, for example, a pump may be a part of a lubricator, or a lubricator may be a part of a pump. Some parts are peculiar to one instrument, some are common to many. Every member of a species differs from every other member. Added to this, the intellectual differences between the persons who present the applications for patent, the differences in their generalizing powers, the relatively broad and narrow views of two or more persons presenting the same invention (variations not indulged in by nature) complicate the problem of classifying the useful arts.

---

[1] Logical division is the process by which the species of which a genus is composed are distinguished and set apart. Physical division or partition is the process by which the parts of any object are distinguished and set apart. Metaphysical division is the process by which the qualities of a thing are segregated and set apart in thought.

Difficulty of entitling a subclass corresponding to every combination.— In any main class or group of the useful arts there are always a number of characteristics that it may be desirable to take note of in subdivision titles. A moment's thought shows the impossibility of taking care of any large number of combined characteristics so as to provide exactly for each combination, for the reason that the limitations of space and of the perceptive faculties forbid. For a simple illustration, the imaginary classification of books for use by a bookseller may be recurred to. The dealer, it may be assumed, has books on (1) four different subjects, history, science, art, and fiction, (2) each printed in four languages, English, German, French, Spanish, (3) in four different sizes of page, folio, quarto, octavo, duodecimo, (4) bound in four materials, leather, rawhide, cloth, paper. Here are four main characteristics, each in four varieties. A customer is likely to ask for Ivanhoe in English, octavo, bound in leather. Now if the bookseller had sought to arrange the books into one class according to subject matter, into another according to language, another according to size, another according to binding, he would have fallen into confusion, because his classes would be formed on different principles or bases and overlap. Some histories will be in French, some will have octavo pages, and some cloth bindings. But if he divides first on the basis of subject matter, then each subject matter into language, each language book into sizes, each size into material of binding, he can immediately place his hand on a class wherein the book will be if he has it; but this classification, based on four different characteristics and four varieties of each, has necessitated the formation of 256 classes or divisions, and if five characteristics were provided for, 1,024 divisions would be required.

Adapting the illustration of the books to a patent office classification: If it were possible to view these characteristics as patentable in combinations of all or in any combinations less than all, and also as separate characteristics, 16 divisions additional to the 256 for each independent characteristic would have to be provided, as well as other divisions for combinations of less than the whole, in order to make the classification absolutely indicative of every feature, and the number of divisions would be enormous. In such a classification, after the proper division had been located, the search would be nothing, the difficulty would be to find the appropriate class.

Expedients to reduce the number of subdivisions.—Fortunately most people carry on their mental processes in accordance with certain uniformities. Under this uniformity of thought no patentable relationship may be alleged between a quarto volume and the subject of history or between a leather binding and the German language; wherefore 4 classes of coordinate value, based on the 4 characteristics, each divided into 4 subclasses, 16 divisions in all, may serve the purpose of a Patent Office search. But if, as sometimes happens, a patentable relationship had been assumed and admitted between a leather binding and any of the languages, or any of the subjects, or between any two or more of those different characteristics, provision could be made for such combinations by the following expedients:

(1) Arrange the characteristics, in the order of relative significance or importance for the purpose in view, in four groups, giving each group the characteristic title. Under each title arrange the varieties in a similar relation as follows in either (1) or (2):

(1)

Cl. X.—Books.

0. Miscellaneous.
0.5 Subject-matter—
    1. History.
    2. Science.
    3. Art.
    4. Fiction—
4.5 Language—
    5. English.
    6. German.
    7. French.
    8. Spanish.
8.5 Size—
    9. Folio.
    10. Quarto.
    11. Octavo.
    12. Duodecimo.
12.5 Binding material—
    13. Leather.
    14. Rawhide.
    15. Cloth.
    16. Paper.

(2)

Cl. X.—Books.

1. Subject-matter—
2. History.
3. Science.
4. Art.
5. Fiction.
6. Language—
7. English.
8. German.
9. French.
10. Spanish.
11. Size—
12. Folio.
13. Quarto.
14. Octavo.
15. Duodecimo.
16. Binding—
17. Leather.
18. Rawhide.
19. Cloth.
20. Paper.

Subject-matter, assumed to be the most important characteristic, is placed first. Any exhibit of mere material for binding, mere size, mere language, or mere subject-matter, would fall into the correspondingly entitled group. If, however, a book on history in German or a history in red leather, etc., were to be classified, it would be placed in subclass "History" in the subject-matter group, and a French book in green cloth would be placed in subclass "French" in the language group. That is, combinations of any characteristic with any one or more other characteristics may be placed in the group for that characteristic deemed the most significant and which is highest in the schedule. Again, by assigning a number to each generic title, each such title becomes thereby the miscellaneous group for varieties other than those indented under it, as well as for all varieties associating any characteristic with one or more of those standing lower down. Thus, a book of poems would belong in subclass "Subject-matter" and a 16mo volume bound with purple celluloid covers would belong in subclass "Size." So, by giving meaning to relative position, exhaustive arrangement is sought to be provided in a reasonable number of groups. To provide for other features that may be presented in future, an additional miscellaneous group may be added at the top (1), or the class title (2) might be deemed to represent the unclassified residue and a depository for future matter not specifically provided for.

(2) If the number of instances of association of subject-matter and binding materials, language and size, etc., are numerous, additional groups might be placed above the groups having the names of the characteristics, the fact of the existence of these groups indicating that the characteristic groups are for single characteristics only and do not include books having several different ones. In such case the schedule might be headed by a miscellaneous group, having either the title "Miscellaneous" or the title of the class, to receive associated characteristics not provided for by specific titles, immediately followed by subclasses for the particular associations found to be most numerous, as follows:

BOOKS.

Miscellaneous.
Subject-matter and language.
Subject-matter and binding material.
Subject-matter.
Language.
Size.
Binding material.

To illustrate further, selecting for the purpose a mass of objects presenting problems more nearly like those presented to the office in questions of patentability, let it be assumed that one is to classify the objects in a heap of metal scrap.

On looking over the material of the heap it is noticed that there are a large number of metal balls; some have holes through them, some are hollow, some are smooth on the outside, and some are hollow, smooth, and perforated, but they are all nevertheless balls, and accordingly all balls can be separated out and placed in a heap by themselves. Next, the presence of bars in the general mass is observed, some long, some short, some straight, some twisted, some of round stock, some of square stock, etc. These may be gathered together and placed in a separate pile at the left of the balls. It is further observed that there are many differently shaped annular bodies in the heap resembling generally the single links of a chain, some circular, some elliptical, some twisted, some made of round stock, some of square stock, etc. They are all nevertheless annular bodies; these may be placed in a separate pile at the left of the bars.

Now, in the remnant of the original heap, a sufficient number of similar single elements does not remain from which to make a smaller pile of elements. Different combinations of links, balls, and bars are, however, observed in the remaining heap. Some are combinations of links, some combinations of a ball and link, some of a bar and link, and some of a bar, link, and ball. These different combinations may be separated out in the order named and placed in separate piles. After all these things have been removed, there is left in the original heap a number of odds and ends or miscellaneous metal objects.

These several groups may now be arranged in the inverse order in which (in the particular illustration adopted) they have been removed, thus:

1. Miscellaneous (remnants of the original heap of scrap).
2. Combined bar, link, and ball.
3. Combined bar and link.
4. Combined bar and ball.
5. Combined link and ball.
6. Chains.
7. Links.
8. Bars.
9. Balls.

Knowing that objects of metal scrap not covered by the specific titles will be found in the miscellaneous group, and that the more complex specifically-named things are to be found first after the miscellaneous or at the left of the row of piles of materials thus separated and arranged, and the more simple things and parts farther to the right, the particular piles to resort to for the things wanted may be definitely determined. The same processes may be applied to each of the piles. Thus, balls, in the above illustration, may be divided into—

Balls—
10. Hollow perforated.
11. Hollow grooved.
12. Hollow.
13. Perforated.
14. Grooved.

Again, the same processes may be applied to a mass of more diversified junk, of which the metal scrap may form one pile, rags another, old bricks another, old timber another, and, still another, timber having metal-straps, bolts, nails, etc., connected with it.

Superiority and inferiority.—In the arrangement of subclasses in a class, those groups that are related to each other as wholes and parts are arranged so that the wholes shall stand before the parts, and so that subclasses defined by effect or by special use shall stand before those defined by function or general use. For example, in the scrap illustration above, assuming the titles to be in a printed arrangement, "chains" precedes "links," which may be parts of chains, and if it had been desired to separate animal-drags, for instance, from the scrap, some animal-drags being particular adaptations of a bar, links, and ball, the group of animal-drags should precede "Bar, link, and ball." The words "superior" and "inferior" have been used to indicate this relationship. A class or subclass defined to receive a certain combination is superior to one defined to receive an element or a combination that is a part of that certain combination. A class or subclass defined to receive means for making a particular product, as an electric lamp, is superior to a class or subclass designed to perform a general function, as pumping air from a container. And whenever a question of assignment of a patent or application that contains matters of two or more groups bearing that relation is raised, the "superior" group is selected to receive it.

Further, in those instances in which groups are formed on different bases or different characteristics, not comparable with each other, and a patent is presented having matter falling in each group, that group which is highest in position is preferred in those instances where separate provision for means having both characteristics has not been made.

In cases of necessity, as where a combination is presented for which no class has been definitely provided, but classes exist into which the several parts would fall if separately claimed, the same practice that obtains in similar situations with respect to two or more *subclasses* of a class may be followed with respect to two or more *classes* and the patent placed in that class which, in accordance with above-stated principles, should be deemed the "superior."

Definite positional relationship of subdivisions.—In the metal scrap example, above, division has been effected on the one basis of form or contour. If it had been desired to separate also on material, for example, if it were deemed important to locate all brass scrap, each of the groups based upon form could be divided into one of *brass* and one *not brass*, or the entire heap could be divided into *brass* and *not brass*, and under the heading "brass" could be indented the various articles made of brass, and under "not brass" the various articles not made of brass, and this would double the number of divisions. If also it were desired to separate the lead articles in the same manner the number of classes would be tripled. But, as in the book illustration, it may be impracticable thus to multiply subdivisions, and the basis "form" having been selected as of *first-rank* importance, all divisions based upon form should be completed and kept together. Then, "material," having been selected as of *second-rank* importance, should be carried out with respect to all objects in which form is nonessential. If enough brass balls were found to render it advisable to make a subdivision of them, they should be assembled into a subclass indented under "balls" and not into a subclass indented under "brass." Having selected one basis as *primary*, it should never subsequently be made *secondary* or *vice versa*. Some such restriction on modes of division appears salutary in a system of divisions designed to definitely limit search. The arrangement herein sought to be explained is susceptible of use to limit all searches for a single definitely stated invention to a subclass properly entitled to receive it or those indented under it, and to those subclasses above, which may include it as a part of an organization or specialized means.

As between coordinate groups divided on the same basis, there is no question of superiority and inferiority. The terms "superior" and "inferior" are useful in questions of relationship between combinations and subcombinations or elements thereof, and between groups founded on effect or product and those founded on simple function. The mere difference in complexity of mutually exclusive coordinate groups involves no relationship of superiority or inferiority. A subclass to receive a screw-cutting lathe is superior to a subclass to receive a lathe-headstock, a locomotive class is superior to a class to receive steam-engines, for the reason that the lathe is a whole of which the headstock is a part, and the locomotive is an organization of which the engine is an element. But the headstock subclass is not superior necessarily to the tailstock subclass simply because the headstock is commonly more complex than the tailstock. Yet arbitrary preference for classification in the headstock subclass may be established by position where an application or a patent contains claims for both.

Thus in a class that is founded on a well-chosen basis that brings together things bearing close resemblances to each other, all types that contain the elements essential to produce a complete practically operative means will be found in subclasses that have a position somewhere between the beginning and end of the list of subclasses of the class. Those that add features of elaboration of the essential types and those that are highly specialized to some particular purpose within the definition of the class will stand above the essential type subclasses, while those subclasses for parts and details will stand below those for the essential types.

Indented schedules.—In an indented schedule all subclasses in the first column reading from the left are species to the genus represented by the class title.[1] All subclasses indented under another subclass are species to the genus represented by the subclass under which they are indented. If a title has no number, it represents merely a subject-matter to be divided, a genus,—having no representatives except in the species under it. If a subclass having a generic title has a number, it not only represents a subject-matter to be divided into species but also all other species not falling within the titles indented. Although these relative positions might imply that only proximate species are indented one place, yet mechanical difficulties render it impracticable to so arrange that all species shall be indented under their proximate genera.

Indention properly carried out has a tendency to prevent in the process of logical division the logical fault of proceeding from a high or broad genus to a low or narrow species. This latter fault may inadvertently separate things that belong together. If, for example, it were desired to divide balls in the stated illustration according to material, an immediate division of balls into aluminum, zinc, glass, ivory, rubber, would be less useful than to divide into mineral materials and nonmineral materials as follows:

---

[1] Any class of objects may be called a "genus" if it be regarded as made up of two or more different kinds of objects or of two or more species. "Motors" is a genus when the class "Motors" is considered as divided into electric motors and nonelectric motors, or electric motors, spring motors, weight motors, current motors fluid pressure motors, etc. A genus is more extensive than any of its species but less intensive.

A "species" is any class that is regarded as forming a part of the next larger class, "electric motors" being a species of "motors" and "motors" being a species of "energy transformers." A species is more intensive than the genus to which it belongs but less extensive.

Every species may be a genus to another species until no further subdivisions can be made. This last indivisible species is termed the *infima species*. Every genus may be a species to another genus until a point is reached where no further generalization may be made or the *summum genus* is attained. In the Patent Office classification of the useful arts, the *summum genus* is useful arts. The *summum genus* of the plastic arts would be plastics. The *infima species* in the useful arts evidently never can be attained.

"Proximate species" and "proximate genus" indicate, respectively, those species that are divided from a genus without intermediate genera, and those genera from which the species are directly divided. Motors, and not energy transformers, is the proximate genus to the species, fluid motors, electric motors, etc., while fluid motors, electric motors, etc., and not steam engines, alternating current motors, etc., are proximate species to motors.

- Balls—
  - Mineral—
    - Nonmetallic—
      - Glass.
    - Metallic—
      - Aluminum.
      - Zinc.
  - Nonmineral—
    - Vegetable—
      - Rubber.
    - Animal—
      - Ivory.

However, it is evident that indention carried to its full extent, useful as it is in keeping analogous things together, would make the printing of schedules complex and unwieldy. Nevertheless, in the generalizing process necessary in logical division and arrangement, the divisions of species should always be *mentally indented,* as it were, under their *proximate* genera. Thus, under a genus unnamed may be arranged several species in juxtaposition, without actually printing the name of the genus, so that the schedule above may read:

- Balls—
  - Glass.
  - Aluminum.
  - Zinc.
  - Rubber.
  - Ivory.

In an arrangement printed in idea-order, though relegating the genera mineral, nonmetallic, metallic, nonmineral, vegetable, animal, to the mind unaided by printed words, the different species of the same genus may be kept together except that species for which no title has been provided must go back to the subclass under which the named species are indented. Thus the arrangement above necessitates placing in subdivision "Balls" all *copper* balls, whereas indention under proximate genus "metal" would have brought all metal balls together. In a finely divided classification, printing of titles for all genera is not practicable; hence great care ought to be directed toward grouping species according to the principles of arrangement herein outlined, noting that whenever a change of basis is made, a new genus is implied, and that subclasses for all other species of the same genus, under whatever name, must be brought into juxtaposition as if indented under the implied genus.[1]

---

[1] In the Manual of Classification of the U. S. Patent Office the arrangement of subclasses has always been alphabetical, although in the Supplement containing definitions of revised classes the arrangement is numerical. If the latter schedule of "Balls" in the text had been printed in alphabetical order, it is apparent that the species "Aluminum" and "Zinc" of the genus Metal would be as widely separated as possible. In the former schedule of "Balls," in which the genus Metal is printed, "Aluminum" and "Zinc" come together. It is apparent that in an alphabetical arrangement allied species can not be kept together without printing every proximate genus. This fact. among others, indicates the advisability f abandoning the alphabetical arrangement in the classification manual and adopting the idea arrange- in the schedules of revised classes, supplemented by a consolidated alphabetical index of all sub-

Bifurcate division.—Most discussions of classification make reference to the so-called bifurcate scheme of division as the only one by which exhaustive division can be surely achieved. This is commonly illustrated by the ancient tree of Porphyry. By this method any subject it is desired to subdivide is first divided by writing the name of one selected species at one branch and writing at the other branch the name of the same species prefixed by "Not." Thus the Agassiz classification of living beings divides them first into sensible and not sensible (plants). A botanical classification divides plants into flowering and not flowering. A zoological classification divides animals into vertebrate and not vertebrate. By continuing the process of division in the same manner, the division is obviously exhaustive of the subject, there being always a negative subdivision to receive any subsequently created or discovered species. Although bifurcate division has been ridiculed by some, it is agreed by highest authority that it is the only plan of division by which one can be sure to have a consistent place for everything, or by which one can be certain that the divisions are mutually exclusive. It can be demonstrated that a classification schedule in which the relation of genera and species is shown by indentions, if correctly formed on the principles now sought to be applied in the revision of the Patent Office classification, is susceptible of conversion into a tree of Porphyry, while unlike the latter it is compact and wieldy.

Utility of arrangement according to resemblances.—The expedient of indicating kinds of relationship between several equally indented divisions by relative position has the following utility:

(1) A uniform rule is provided, applicable to all classes, for placing inventions that bear the relation of whole to part in subdivisions before those that bear the relation of a part to that whole, and those that are defined by a particular effect, product, material, or use before those that are defined by a function or an operation applicable generally to various effects, products, materials, or uses; whereby that portion of the schedule in which any invention belonging to any particular class should be found may be approached whether or not the investigator knows the name of the object sought for or the title of the appropriate subdivision.

(2) The substantial impossibility of dividing many branches of the useful arts exhaustively into a reasonable number of mutually exclusive or non-overlapping subclasses is compensated for; so that when the classifier or the searcher has an invention to place or to find including two or more different kinds of characteristics, for each of which a subdivision is provided, but no subdivision for the plural characteristics, it will be known that the invention should be in the subclass for that characteristic which stands before the subclass for the other characteristic.

(3) It compensates for omission of some generic titles that if written in the indented schedule would lengthen specific titles to a cumbersome extent.

(4) It provides a rule for cross-referencing where several inventions are claimed bearing to each other any of the relationships indicated above, cross-referencing being necessary in one direction only where the matter illustrated is coextensive with the matter claimed.

(5) It definitely limits the field of search for any *unitary invention* in any class so arranged, as no patented invention having the limitations imposed by a unitary claim should be found in any subclass below the subclass properly defined to receive it or those indented under it. Parts of such inventions may be found below or following this subclass in the same class if these parts are within the class definition, or elsewhere in the useful arts if not within that definition. The unitary invention may be found in the subclass limited to it and certain subclasses arranged *above* or *before* it adapted to receive organizations of which it may be a part.

A complete system of arrangement should comprise (1) a display of the entire field of the useful arts in a manner to show the relation of the larger as well as of the smaller groups,—carrying the appropriate relationship as far as possible from the highest genera to the lowest species, the arrangement being such as would bring materials most nearly alike into closest propinquity regardless of the names they may be called by. (2) Supplementary to this classification arrangement by ideas there should be an alphabetical index of subclass titles, appropriately cross indexed, and additional titles of various technical and trade names of things classified under subclass titles.

DEFINITION.

Definition is indispensable in any classification and is very difficult. Every class must be defined and all of the groups under it. After definitions have been made and printed, they are sometimes found inadequate and must be supplemented by the definitions of other classes. This is unavoidable while the complete material remains unexplored. Definition in the strict logical sense is not to be expected, nor is it necessary. It is commonly sufficient if an explanation or comparison be made sufficient to direct the mind to the character of the contents of the group and indicate its limitations. Hitherto four of the five predicables of ancient logic have been mentioned, to wit, genus, species, property, and accident. In connection with definition, the fifth predicable, difference, is useful. To define a class, it is sufficient, generally, for the purposes of office classification, to state a *peculiar property* (not an accident) of the objects included in the class; and to define a species under the class it is sufficient to state the name of the class plus the difference—i. e., with the addition of the limitations that characterize the species.[1] This procedure in definition is susceptible of application from the highest genus to the lowest species. It is advisable to define the means included within a title without any introductory words, such as "this subclass includes inventions relating to," etc., treating the subclass for definition purposes as if it were a collection of concrete things, in the same manner as in a dictionary definition.

CROSS-REFERENCES AND SEARCH-NOTES.[2]

If patents were in all respects like material objects, cross-references and search-notes would not be necessary. Nails, screws, locks, hinges, and boxes are distinct things susceptible of definite separation and classification. Even though nails, screws, locks, and hinges form part of the box, the box is still a box, not a nail, screw, hinge, or lock. For the needs of the Patent Office classification, however, although a patent for a box must be classified with boxes, yet if a peculiar nail, screw, lock, or hinge is claimed in the same patent with the box, or even if any one of these customary accessories of boxes is illustrated, it may be necessary to provide copies of the patent for the box in each of the several classes provided for nails, screws, locks, or hinges.

Inasmuch as every relatively complex thing is made up of relatively simple things, it is obvious that all disclosures can not be cross-referenced. Any attempt to calculate the number of cross-references to be supplied if all disclosures of the subjects of invention were to be cross-referenced would show the number to be incalculable. It is necessary, therefore, to leave to the judgment of the classifier the propriety of cross-referencing unclaimed disclosures.

Should a patent contain a number of claims defining a number of differently classifiable inventions, complete cross-referencing from the class in which the classification is made original into the other appropriate classes or subclasses should be effected, *unless* cross-search notes or arrangement of subclasses with appropriate titles may be substituted to advantage.

---

[1] A species contains all the qualities of the genus and more. These additional qualities form the "difference." The electric motor has the qualities that are common to motors and is differentiated by reason of the fact that electric energy is thereby converted to mechanical motion.

[2] Classification of a patent is said to be "original" in the class and subclass which receives the most intensive claimed disclosure, and in which the patent is indexed in the official classification indexes. "Original classification" is referred to as opposed to "classification by cross-reference."

A "cross-reference" is a copy of a patent placed in a subclass other than that in which the classification is made original, in order to make available for search inventions disclosed therein and additional to that by which the patent has been diagnosed and classified.

A "digest cross-reference" is a cross-reference formed from abstracts or extracts from a patent consisting of illustration and text cut from a photolithograph of a patent and mounted.

A "search-card" is a sheet of the size of a photolithograph of a patent placed with the photolithographs of patents forming a subclass in the examining division and public search room, and containing suggestions for further search, and on the copy for the search room, a definition of the subclass.

"Search notes" are addenda to class and subclass definitions comparing other classes and subclasses with the one defined and giving directions for search when necessary to prosecute search beyond the defined class or subclass.

Cross-referencing or cross-search notes are made, as a rule, from combination class to element class, but never or very rarely from the element class to the combination class in which it may be used. Thus cross-referencing should normally be downward in a schedule of subclasses. Search notes indicate parallel or otherwise related classes and subclasses, and those classes and subclasses in which analogous structures having different purposes but adapted to answer broad claims may be found.

By arbitrary rules of arrangement such as have been referred to in the section dealing with division and arrangement, a search may ordinarily be definitely limited to a certain number of subclasses, even where cross-references are not made. In such arrangement any given patent, *if it be directed to one invention*, may be searched in the subclass within which the definition places it or subclasses indented under it, and in certain subclasses above, whose titles will indicate that the invention might be included as a part of the matter defined to belong therein, but it would never have to be searched in any subclass following and not indented thereunder.

DIAGNOSIS TO DETERMINE CLASSIFICAITON.

Each patent and each application discloses one or more means of the useful arts (using the term "means" to cover both processes and instruments in the sense in which it is used by Prof. Robinson), almost always more than one, since most new means are combinations of mechanical elements or acts. In some patents and applications the disclosure is coextensive with that which is claimed; in others there is matter disclosed but not claimed. The unclaimed disclosure may be as valuable as the claimed disclosure for purposes of anticipation, and the classification must provide for both. If the claimed disclosure belongs in one class and the unclaimed in others, the classifier must choose between two or more classes that one in which the patent or application shall be classified and those into which it shall be cross-referenced.

Claimed or unclaimed disclosure.—The claims of a patent are the statutory indices of that which the applicant believes to be new, they define an invention that has been searched by the Patent Office and no anticipation discovered for it. Future action must be based on inductions from past experience; none knows what the future lines of search will be; the only guides for future searches are the searches of the past; the evidence of past searches is the claims of patents; they trace the course of invention. Furthermore, a presumption of novelty attaches to the claimed matter; no such presumption attaches to the unclaimed. The law requires every patent for improvement to show so much of the old as is necessary to explain the uses of the improvement. In practice much more than that is disclosed. Questions as to the proper placing of patents and cross-references would be diminished by the strict enforcement of Rule 36 of the Rules of Practice requiring that the description and the drawings, as well as the claims, be confined to the specific improvement and such parts as necessarily coöperate with it. In any event both the claimed disclosure and that which is unclaimed must be taken care of, one by cross-reference, and the disclosure selected for cross-reference is that to which no presumption of novelty attaches.

This practice of placing patents by the claimed disclosure is sometimes misunderstood. Its chief application is in determining classification in case of disclosures involving a plurality of main classes. Furthermore, the mere letter of the rule is not to be applied in preference to its spirit. Subcombinations claimed may be placed with the combinations, and in subordinate type subclasses patents must be placed sometimes by claimed and sometimes by not-claimed disclosures.

Diagnosis of pending applications.—What has been said relates to patents. The bearing of the practice of adopting the claimed disclosure as the basis of assignment of applications for examination has also to be considered.

Two pending applications claiming the same means very commonly differ in the kind and extent of disclosure. One application may disclose several inventions. Which of the several disclosures shall be selected as the mark by which to place the application? For instance, the typical wire-nail machine has a wire-feeding mechanism, a shearing mechanism, an upsetting (forging) mechanism, side-serrating mechanism, and pointing mechanism; it may also have a counting mechanism, a packaging mechanism, an electric motor on its frame for furnishing power; and, in addition, numerous power-transmitting and other machine parts, such as bearings, oil-cups, safety appliances, etc. The applicant may have made a complete new organization of nail-machine and may seek a patent for the total combination. He may have invented a new shearing mechanism and have chosen to show it thus elaborately in the place of use he had in mind, or he may have designed a new counter or a new oil-cup or a new power transmission, or even a new motor, and have given his invention this elaborate setting. The shears, the counter, the oil-cup, the power transmission, and the motor are separately classifiable in widely separated classes. How shall the application be diagnosed for determining its place in the office classification? When the specification and drawing disclose (as most of them do) several subjects matter of invention, though claiming only one, which of those several subjects matter shall control the classification?

The most natural procedure, at first thought, would be to classify on the totality of the showing, in which case the application for the nail-machine, supposed above, would be assigned to nail-making. But imagine the invention claimed by an applicant to be the counter. Then the examiner in charge of nail-making would have to search the class of registers with which he is not familiar. Suppose applicant No. 2 files an application for the same counter which he illustrates and describes in connection with a bottle-filling machine, and that, classifying on the totality of the showing, this goes to the division that has the class of packaging liquids. Now both the examiners in charge of bottle-filling and nail-making, knowing that counters are classified in registers, search the class of registers and also the pending applications in registers. After these examiners have made their searches, suppose applicant No. 3 files an application for the same counter, which he says may be used for counting small articles produced by automatic machines. Perhaps he shows the counter attached to a piece of conventional mechanism representing any manufacturing machine, mentioning, say, a cigarette or pill or cartridge-making machine. It has not occurred to either the the examiner of nail-making or the examiner of bottle-filling that the other might have any such application; nor does it occur to the examiner in charge of registers to search nail-making or bottle-filling. As the specification of the counter application mentions cigarette, pill, and cartridge-making machines to which the counter may be attached, the examiner in charge of registers may search those classes. Suppose that the counter proves to be new, and each of the three examiners allows a patent. Here now are three patents for the same thing. Of course, after allowance, the counter and all other disclosed inventions that give any suggestion of novelty are cross-referenced; but the primary purpose of a patent office classification (to aid in determining patentability) has failed in this instance.

In the imagined situation respecting pending applications, without doubt diagnosis and classification upon the invention claimed is necessary to effect the purpose of the office classification. Cross-referencing after issue can not undo that which has been done.

If no application save that of the nail-machine be pending, no duplication of patents occurs, but the labor of search is increased by reason of the unfamiliarity of the examiner with the inventions he has to search. After the patent is allowed he may find the entire combination of the nail-machine without the counter disclosed in a patent for a nail-making machine, so that as a nail-making machine this new patent is of no value as a reference. Very probably all of the other inventions illustrated (except the counter) are also old in their respective classes; but the examiner of nail-making can not tell this without extensive searches in those classes, so he notes cross-references for them all.

Difficulties due to varying ideas of claims.—Very troublesome questions are constantly arising as to whether an invention should be classified in a combination class or an element class. The point will be illustrated by example: A describes and illustrates an automobile having an internal-combustion motor and a friction-clutch in the motor transmission-gear. He states that the clutch is in the usual relationship to the motor and gearing, but claims a new clutch for whatever it may be adapted. B discloses an internal-combustion motor said to be for automobiles with transmission-gearing and a friction-clutch and claims "in an internal-combustion motor a friction-clutch," etc., specifying the form of the clutch. C makes the same disclosure, but claims "an internal-combustion motor having a specified clutch," while D, with the same disclosure, claims "the combination with the internal-combustion engine of an automobile" of a specified friction-clutch. E claims and illustrates only the friction-clutch. Should these be classified together? If so, in what class? Should a bearing composed of a specified alloy of copper, tin, and antimony, be classed as a bearing or as an alloy? Should a house painted with a mixture of linseed oil, lead oxid, and barium sulphate go to buildings or coating compositions? A lamp-filament of titanium and zirconium with electric lamps or with alloys? A building-block of cement, lime, sand, and carborundum, with building-blocks or plastic compositions? Whether these be diagnosed as combinations or as elements and compositions respectively, and classified accordingly, criticism will be aroused. The point in view is that although principles of patentability must be considered in a classification designed as an instrument to aid in determining patentability, convenience and accuracy of search and avoidance of voluminous cross-referencing may necessitate some arbitrary rule of classification to meet various and changing theories applied to the drafting and allowance of claims.

From the foregoing it will be evident that classification involves orderly logical processes of induction (supplemented by hypothesis), of definition and of deduction. After gathering a large number of facts generalizations are made from them and a hypothesis is found to be confirmed or modified by more extended research; the divisions are then defined; by correct diagnosis of other instances (as other patents) deductions may be drawn respecting the appropriate place for them in the classification.

(C) RULES OF CLASSIFICATION.

BASIS OF CLASSIFICATION.

(1) The basis of subdivision and assemblage of the means of the "useful arts" in the Patent Office classification is "art" within the meaning of "art" in section 4886, Revised Statutes. The direct, proximate or necessary art, operation or effect, rather than some accidental and remote use or application, should be selected. In all cases qualities or characteristics that persist through all accidental uses and that can be identified as permanent are to be preferred.

(2) The operative, instrumental, or manipulative arts, including machines, tools, and manufacturing processes, should be classified according to whether a single operation of one kind applicable to various materials to be used for various purposes is carried out by the claimed means, or whether plural operations are performed, which, combined, produce a special effect or special product.

Example: An instrument performing a plurality of operations peculiar to shoemanufacture would be classified on the basis of shoemaking, because that instrument would be incapable of other use, while an instrument peculiarly adapted to drive nails would be classified on the basis of nailing, whether for nailing shoe-heels or other objects, and a hammer would be classified on the basis of its function as an impact tool even though described as for driving nails, and even into shoe-heels.

(3) Structures (passive instruments) will, in general, be classified on the basis of structure, either of special or general application, the essential functions and effects of static structures being resistive or the maintaining of forces in equilibrium.

Example: A structure recognized as peculiar to barriers of the kind known as fences would be classified in the special class of Fences, but posts, joints, beams, etc., recognized as having use in general building, even though described as used in fences, would be classified in a more general building class, such as Wooden Buildings or Metallic Building Structures.

(4) Compositions of matter and manufactured or formed stock or materials will be classified in accordance with the inherent character of the substance or material where possible, otherwise according to special use.

Example: A pure chemical is expected to be classified on the basis of its chemical structure and constituents, even though useful as a food, medicine, dyestuff, explosive, etc., and alloys on the basis of metallic composition, even though used for bearings, coins, tools, etc.; whereas a physical composition having no reason for existence except to function as a cleansing composition or a paint might have to be classified on the basis of its function as a detergent or a coating composition, respectively. Also a bimetallic layered foil, plate, or wire would be expected to be classified as metal stock even though designed for use for dental filler, plowshare, or electric conductor, and a woven textile fabric as a fabric even though described as used for a filter or apron for a paper-making machine.

DIVISION AND ARRANGEMENT.

(5) The divisions or subclasses of a class should be made exhaustive, i. e., they should be susceptible of receiving any future invention that may fall within the scope of the class. The rule as usually phrased is: "The constituent species must be equal, when added together, to the genus." Exhaustive division may be secured by maintaining always a residual or miscellaneous subclass. The miscellaneous subclass represents the remainder of the original undivided material undefined except as the class is defined and may be accurately treated as if it had the class title.

(6) A second rule respecting the subdivision of a class is: "The constituent species must exclude each other." That is, the divisions or subclasses must not overlap. (See exception in Rule 8.)

Example: If a number of balls of several different materials, several different conformations, or constructions, several different colors, were to be divided into glass balls, hollow balls, and red balls, this rule would be violated, because some balls would be glass, hollow, and red.

(7) A third rule respecting subdivision is: "The divisions must be founded on one principle or basis." The application of this rule will generally form divisions that do not overlap. (See exception in Rule 8.)

Example: If a number of balls of several different constructions, several different materials, and several different colors were to be classified so as to provide a place for each kind of characteristic, they should be divided first, for example, according to construction into hollow balls and solid balls, each of these according to materials into glass balls, rubber balls, metal balls, wooden balls, etc., and each of the latter into red balls, blue balls, green balls, etc.

(8) When it is found that division into overlapping subclasses and on different characteristics is a lesser evil than an unwieldy number of subclasses that would otherwise result, then those subclasses based on characteristics deemed more important for purposes of search should precede in the list of subclasses those based upon characteristics deemed less important. (See Rule 6.)

(9) In arrangement of subclasses or subdivisions the miscellaneous groups containing material not falling within any of the specifically entitled subclasses, should stand first; those subclasses defined by effect or special use should precede those defined by function or general use; those containing matter that is related to the matter of other subclasses as whole to part should precede those subclasses that contain the part; and those defined by a characteristic deemed more important or significant for search purposes should precede those defined by characteristics deemed less important.

Whenever superior rank has been assigned to any selected characteristic by placing divisions based upon it in advance of divisions based upon other characteristics, *this superiority should be maintained throughout.*

Example: A partial schedule of Class 80 follows to illustrate the arrangement of subclasses:

Class 80.—Metal Rolling.

1. Miscellaneous.
2. Heating and rolling.
3. Cutting and rolling.
4. Drawing and rolling.
5. Annular bodies.
6. Screw threads—
   7. Concave and roll.
   8. Platen rolling—
      9. Dies.
   10. Rods and wires.
11. Tubes—
   12. Idle rolls.
   13. Axial rolling.
   14. Segmental rolls.
   15. Skelping.
16. Wheels and disks.
17. Reworking.
18. Concave and roll.
19. Platen and roll.
20. Platen rolling—
   21. Disk platens.
22. Axial rolling—
   23. Pattern rolls.
24. Die rolling—
   25. Oscillating rolls.

.. . .

Mills—

32. Coiling.
33. Work reversing.
34. Three or more coacting rolls.
35. Continuous—
    36. Inclined trains.

.. . .

41. Roll cooling and heating.
42. Cooling beds.
43. Feeding—
    44. Tables.

.. . .

55. Housings.
56. Roll adjustments—
    57. Relief devices.
58. Rolls—

.. . .

60. Processes—

.. . .

66. Flanged bars.

In this schedule the miscellaneous subclass is numbered 1, then follow three subclasses (2–4) of rolling plus another function, then four major subclasses (5–16) of rolling, merely, but applied to blanks of special form producing special products, then one special subclass (17) based upon a special class of material treated, then five subclasses (18–31) specialized in type and mode of operation, then general types of rolling mills (32–40), then various parts and accessories (41–59), then processes (60–66). This is the usual arrangement and is an exhaustive division for the art of metal rolling. Had there been miscellaneous subclasses for all combined operations of rolling plus some other function, a miscellaneous subclass for all mere rolling machines, either special or general, and a miscellaneous subclass for all parts and accessories, the requirements of exhaustive division would have been also satisfied.

In the illustrative schedule, there being no miscellaneous subclass for means having combined functions of rolling and another, any patent having claims for the combination of a means for rolling and a means for cooling would fall in subclass 1, Miscellaneous. In that subclass would also fall all "Mills," such as for rolling spiral conveyer-flights, the same not falling under any of the subclasses 32–40, no miscellaneous subclass of "Mills" and no special article-rolling subclass having been provided; also all parts or accessories, such as a water-cooled screen, peculiarly adapted to rolling-mills, there being no existing subclass of screens therein and no miscellaneous subclass of parts. The arrangement of subclasses in Class 80 requires that the combination of a furnace and a rolling-mill shall be placed in subclass 2, even if the combination be designed and adapted for rolling annular bodies (subclass 5) or tubes (subclass 11). Means special to rolling a tube between a concave and roll must be placed in subclass

13 rather than in subclass 18. A work-reversing mill must be placed in subclass 33 rather than in subclass 34 even though it have three or more coacting rolls.

The rolling of "Screw-threads" having been given higher rank than a "Concave and roll" mechanism, any concave and roll mechanism limited for use in rolling screw-threads should be formed into a subclass indented under "Screw-threads" and not into a subclass "Screw-threads" indented under "Concave and roll."

(10) Class schedules are arranged with certain subclasses appropriately indented according to a commonly understood expedient. In a properly indented schedule subclasses in column at the extreme left are the main species (the proximate species) of the class. The titles and definitions of all subclasses proximate to the class (at extreme left) must be read with the title and definition of the class, as if indented under the class title one space to the right; so also with the titles and definitions of subclasses indented under other subclasses. If a title has no number (as in Class 80, "Mills"), it represents merely a subject-matter to be divided, assumed to have no representatives other than those in the species indented under it. If a title having indented species under it has a number, it not only represents a subject to be divided but also a subclass including all other species not falling within the indented titles. Indention does not indicate superiority or inferiority, but merely that the title and the definition of the indented subclass must be read with the title and definition of the subclass under which it is indented. A title selected in a scheme of subdivision to be of first importance and placed, therefore, in advance, should not thereafter be indented under a title selected to be of secondary importance and, therefore, having a lower position. (See Rule 8.)

(11) A group of material may be divided on several different bases. "Use" or "purpose" or "object treated" may be adopted only when the "use" or "purpose" or "object treated" stamps upon the invention such peculiarities of operation or construction as to limit the applicability of the invention to the use or purpose named. (See Basis of Classification, Rule 1.) A group based upon mode of operation also may be divided into subclasses (1) with a "functional" title, usually participial in form, and adapted therefore to receive machines, processes, and tools; (2) with special use, purpose, or object-treated title containing the name of the use, purpose, or object; (3) with "type" title, usually a name or a name with a qualifying adjective; (4) with a title of a part or subcombination, also a name.

Example: In Class 90, Gear-Cutting, Milling, and Planing, are to be found subclasses entitled "Gear-cutting," certain machines being peculiar to that use; also other subclasses with the general functional title "Planing," subordinate to which are the special use subclass "Planing, Soft metal," and the type subclass "Planers" divided into two coordinate subclasses, "Reciprocating bed" and "Reciprocating cutter," and several subordinate "part" subclasses, including "Tool-feeds" and

"Tool-heads." The adjective form of the title "Planers, Reciprocating bed," indicates a type subclass. If the title had been Planers, Reciprocating beds, the indication would be that the subclass was a part subclass to receive planer beds only. In the class referred to for illustration, "Tool-feeds" and "Tool-heads" indicate subclasses for parts and not for types of planers having tool feeds.

(12) In arranging the divisions of a class, such arrangement should be sought as will minimize the need of cross-references. Search for any particular matter can not always be limited to one group without such extensive cross-referencing as would in some cases defeat the purpose of classification. Forming the subdivisions of a class according to the total similarities of the inventions, rather than according to some selected more or less important characteristic, and arranging them in the correct order of superiority and inferiority, with care to maintain throughout the schedule the relative positional values of the several selected bases of division, will ordinarily in a closely bonded class limit the search for any single invention to the subclass particularly suited to receive it and some subclasses preceding that one, excluding from the ncessity of search the subclasses succeeding.

Example: In Class 80, Metal-Rolling, it would not be expected to find any tube-rolling mill lower in the schedule than the tube-rolling subclasses, but a tube-mill might be found higher up in "Heating and rolling," "Drawing and rolling," etc. No concave and roll combination should be found succeeding the subclass of "Concave and roll," but it may be found under subclasses above, such as "Tubes, Screw-threads," etc. No rolls should be found lower than the subclass of "Rolls," but they may be found in many subclasses above.

DEFINITION.

(13) Having some knowledge of the nature of the materials about to be classified, a tentative definition of a class to be formed may be framed, which may be either written down or merely carried in mind, to serve as a tentative guide. This tentative definition must be considered as subject to change to any extent by the fuller knowledge obtained by careful consideration of the material. After a full knowledge of the materials to be classified has been acquired, it will be necessary to frame a careful definition of the class, and also of each subclass whose title does not unequivocally indicate what is contained in it.

(14) A definition of any class should state the "qualities and circumstances possessed by all the objects that are intended to be included in the class and not possessed completely by any other objects." A proper definition should not ordinarily contain the name of the thing defined. "Definitions in a circle" are, of course, worthless. A definition should be exactly equivalent to the species defined and should not be expressed in obscure or ambiguous language, but should employ terms already defined or perfectly understood. It should not be in negative form where it can be affirmative. If

the class of objects has a peculiar property, the naming of that may serve as a definition. If no peculiar property can be detected, the definition should name more than one quality or property. Several different classes may have one or more properties alike, but as the number is increased the likelihood of there being others having the same properties is decreased. The briefest possible statement of such properties or qualities as are possessed by all the objects of a class and not completely possessed by any other objects, which will suffice to distinguish the class from other classes and determine its position in the general classification, will be most satisfactory. To define any species, the genus having been defined, the genus should be named and the difference added. Of course, no generic definition should contain any limitation not characteristic of every species of the defined genus. In seeking qualities by which to describe a genus or species, no accident should be selected.

Example: Suppose there be marked out and defined as a genus all means whereby one form of energy is transformed into another form of energy and no more, and the genus be named energy-transformers. We may then name, as species, energy-transformers that are motors and energy-transformers that are not motors. Motors may be defined by merely naming the genus energy-transformers, and stating the difference, to wit, continuously transforming energy into cyclical mechanical motion. Then the definition will be: Energy-transformers that are adapted to continuously transform energy into cyclical mechanical motion. The non-motor division will retain the genus definition.

It would not be illuminating for a searcher having little familiarity with the textile arts to look under the title "Carding" and find that carding is defined as a means for carding fiber.

Even though the first steam-engine invented had been used to run a gristmill, the accident of its use as a part of a gristmill would hardly warrant the definition of a steam-engine as a means to grind corn. Nor would a hammer be properly defined as an instrument to drive nails or to crack nuts or to forge horseshoes, even though a patent should not mention any use other than one of these and should lay heavy emphasis on the special value of the hammer as a nut cracker, nail driver, etc.

(15) In those cases where the title is so obvious that definition is superfluous, explanatory notes may be substituted and will usually be found helpful.

CROSS-REFERENCES AND SEARCH-NOTES.

(16) Inasmuch as nearly every patent discloses unclaimed matter that is classifiable separately from the claimed matter, it is clearly impossible to cross-reference every disclosure of every means in every patent. Many things must be taken as conventional, obvious, or well known, and the good judgment of the classifier is bound to be exercised in cross-referencing matter disclosed but not claimed to be the invention of the patentee.

(17) A mere part or element should rarely be cross-referenced from an element class to a superior combination class. An element

forming part of a combination in a superior class should, if claimed, be cross-referenced to the element class and also if not claimed if it seems to be not merely a conventional form, and patents having claims for more than one differently classifiable invention should always be cross-referenced unless such an arrangement of subclasses with search-notes is substituted as will guide the searcher to all places where the material may be found. Claimed matter additional to that which controls the classification, if belonging in the same class, should be cross-referenced into a *succeeding* subclass. Cross-references of unclaimed disclosure may be in either direction.

(18) To supplement or take the place of cross-referencing, more or less elaborate search-notes are needed, giving directions and suggestions for further search, setting out the relationship between classes and subclasses, and drawing distinctions by example. Search-notes should indicate other classes or subclasses in which the subject-matter of the group to which the search-notes are appended is likely to form a part of a more intensive combination, also analogous matter that might serve as a reference for a broad claim. They need not, in general, indicate where parts or elements of the subject-matter which are common also to other classes can be found, because the index of classes contains the necessary information. For example, it is not necessary in every machine-class to indicate by search-notes where machine-elements and static parts may be found, nor in a class of wooden boxes to point out where the nails, screws, hinges, or locks that may form a part of the box are classified.

DIAGNOSIS TO DETERMINE CLASSIFICATION.

(19) Inasmuch as nearly every patent contains disclosure that is claimed and also disclosure that is not claimed, it has been deemed advisable to establish the general rule that where the claimed and unclaimed disclosures are classified in different classes or subclasses the invention both disclosed and claimed shall determine the placing of a patent (or a pending application) rather than any selected invention that may be disclosed but not claimed. "Not claimed" covers means that may form an element only of a claim as well as means not referred to in any claim. (See exceptions in Rules 21 to 22 inclusive.)

Example: A patent discloses and claims a dash-pot but illustrates it in such relation to a metal-planing machine as to utilize it for checking the movement of the bed at one end of its path, or in connection with an electric generator to aid in effecting the brush adjustment; the patent should be classified in the subclass of Dash-pots. If the classifier finds the disclosed organization of dash-pot and planer or dash-pot and generator more than a conventional illustration of an obvious use, he should note a cross-reference to Planers or Electricity, Generation. A patent discloses an internal-combustion engine associated with a specific form of carbureter; the claims relate to the engine parts only; the class of Internal-Combustion Engines should receive the patent, and a cross-reference should be placed in Carbureters. A patent discloses and specifically claims the combination of a rail-joint comprising abutting rails, fish-plates, and specific bolts; the patent goes to an appropriate class of rail-joints, and if the bolt is more than a mere obvious conventional bolt, a cross-reference should be noted for the appropriate subclass of Bolts.

(20) The totality of the claimed invention should be selected when possible to determine the appropriate class in which to place a patent. The entire expression of the invention will usually be set forth in the most relatively intensive claim.[1] In a properly drawn patent there is at least one claim that will serve as a mark to indicate the classification of that patent.

(21) Where a patent discloses but does not claim a combination of proper scope to be classified in a combination subclass and claims merely a detail classified in a subclass lower in the schedule, both in the same class, if the subclasses are so related that the combination always involves the detail so that a search for the detail must necessarily be made in the combination subclass, the patent may be placed in the combination subclass. This avoids the need of a cross reference into the combination subclass, and a lack of a copy in the detail subclass is immaterial, as it is seen in the completion of the search through the combination subclass. (See Rule 19.)

Example: A patent for a saw-making machine discloses dressing, jointing, and gaging mechanisms; it claims dressing and jointing only. There is a subclass for dressing, jointing, and gaging, and a subclass for dressing and jointing. In this case the patent may be placed in the first-mentioned subclass, as that must be searched always when the second-mentioned one is searched, cross referencing in this situation being of little value.

(22) Where a subclass with a generic title has indented thereunder a species type-subclass bearing the title of the generic subclass qualified by a difference, any patent which claims an invention falling within the genus subclass and discloses the qualification of the species type-subclass should be classified in the latter whether or not the entire disclosure is claimed. (See Rule 19.)

Example:

Class 29.—Metal Working.
Machine chucks and tool sockets—
Cam closing—
126. Scroll—
127. Bevel pinion or ring.

---

[1] All terms have a meaning in extension and in intension. The meaning of a term in extension consists of the objects to which the term may be applied; its meaning in intension consists of the qualities necessarily possessed by objects bearing that name. The term "motors" in extension means all motors—electric, gas, water, spring, weight, etc. "Motors" in intension means instruments to convert some form or manifestation of energy into periodical or cyclical motion of a body. As the intension increases the extension decreases, and *vice versa*. There must be more motors than there are electric motors, and electric motors have more qualifications than are common to all motors. Comparison of arts and instruments with respect to their extension and intension for classification purposes should be made between comparable qualities. A claim for a steam-engine may be very specific while a claim for a reaper may be very broad; here there is no comparable relationship, and the terms intensive and extensive do not have the relative significance most useful in classification. But when a patent or application contains claims for mechanism peculiar to electric motors and other claims for mechanism common to electric motors and other kinds of motors, the claims for the electric motor would control the classification.

If a patent claimed only the scroll of a scroll-chuck, but disclosed it in connection with a bevel pinion and ring, it should be classified in subclass 127, Bevel pinion and ring, and not in subclass 126, Scroll, although if there were no disclosure of the bevel pinion and ring it would go in subclass 126. Any search for scrolls must be prosecuted through all subclasses that include "Scroll" in the title.

(23) Where, as in the case of patents that show and claim a combination that as matter of common knowledge is not new except in one of its elements, to classify a patent strictly in accordance with rule would result in placing the patent where it would serve no useful purpose as a reference and having to cross-reference it to a class where it would serve a useful purpose, it is best to classify the patent in the class to which the element would take it. (See Rule 19.)

Example: A patent claiming a wheeled vehicle, broadly, in combination with an internal-combustion engine comprising a cylinder, a crank-case, a piston and suitably-connected crank, a valve opening into the crank-case, and a valve in the piston opening into the cylinder, may be advantageously classified as an internal-combustion engine notwithstanding the alleged invention is for a motor vehicle.

(24) In order to meet the situation respecting the classification of those patents that indiscriminately claim an article of manufacture defined only by the material of which it is made and those patents that claim those materials, leaving to the specification information regarding the designed uses, patents for articles defined only by their ingredients specifically set forth may be placed in the composition of matter or material class. (See Rule 19.)

Example: A patent having a claim for a cutter made of an alloy of iron, tungsten, and manganese would be classified with Alloys; a patent claiming a box made of paper composed of two layers united by a solution of asphaltum should go to the class of Laminated Fabric and Analogous Manufactures, rather than to paper boxes; and a patent for a house having its exterior coated with equal quantities by volume of carbonate of lead and oxid of barium suspended in a vehicle of linseed-oil would be classified as a paint rather than as a house.

(25) An alleged process of utilizing a specifically-defined composition or material which consists in merely applying it to the use it was designed for may be classified as a composition or material rather than as a process. (See Rule 19.)

Example: A process of painting the bottom of a marine vessel which consists in applying thereto a composition consisting of sulphate of copper, powdered metallic zinc, chlorid of antimony, and hyposulphite of soda, in a vehicle of linseed oil, would be more usefully classified as an antifouling paint than as a ship, as the invention would hardly be distinguishable from a paint claimed as such and described for use on submarine surfaces.

(26) An alleged process consisting merely in the use of a particularly-defined machine or similar instrument operating according to its law of action will ordinarily be classified in the class or subclass

where the machine belongs. But if in addition to defining the operation of a particular machine the claim also specifies acts not performed by the machine, the classification should be in the class or subclass in which the process belongs. (See Rule 19.)

Example: Thus a claim for a method of rolling an iron plate which consists in passing an iron blank between a pair of rolls arranged horizontally in juxtaposition one above the other and geared together so as to rotate in opposite directions, and causing an idle roll supported in bearings on the roll-housings to bear against the central portion of the surface of one of the first pair of rolls on the upper side thereof, should be classified as a rolling-mill, while if to that claim were added the steps of doubling the sheet after one passage between the rolls, again passing between the rolls, again doubling, and then passing the now four-ply pack between the rolls sidewise or turned 90 per cent to the direction in which it had previously been fed, the classification should be with processes of sheet-metal manufacture.

(27) In the absence of settled rules defining permissible joinder of inventions, there may be in one patent claims for one or more or all of the classes of invention named in the statute, to wit, machine, art, manufacture, and composition of matter. There may also be claims to several more or less related inventions in the same statutory class of invention but each belonging to a different industrial art. (1) Where different main classes are involved, the patent will be classified by the most intensive invention, without regard to the statutory class to which it belongs. (2) Where different subclasses of the same class are involved, the patent will be classified in that one of the several subclasses defined to receive the several inventions which stands highest in the schedule of subclasses.

(28) Where a patent contains claims for all or a plurality less than all of the statutory classes, the general rule of preference or superiority of the several classes or subclasses is that represented by the following order, to wit: (1) Machine (or other operative instrument); (2) Art; (3) Manufacture; (4) Composition of matter. This order is, in a general way, the order of intensiveness of the several kinds of invention. (See Rules 29–35.)

Example: An automatic screw-machine, peculiarly adapted to carry out a process of making a novel form of machine-screw out of a new iron alloy, and having a claim to the machine, to the process, to the screw, and to the alloy, would be assigned to Metal-Working, Combined machines, and, if all claims were allowed, cross-referenced to Bolt and rivet-making processes, to Bolts, and to Alloys. If the claim to any one or two of the subjects were eliminated, the order of preference or superiority and the order of cross-referencing would remain the same.

(29) Patents containing a plurality of claims for several different statutory kinds of invention that are classifiable in different main classes, and wherein the rule of relative intensiveness varies from the order Machine, Art, Manufacture, and Composition of matter, may be diagnosed and classified as directed in the following paragraphs (30 to 35).

(30) Where a patent contains claims for a process and for an apparatus susceptible of use as an instrument in carrying out the process, but not peculiar to that use, or for an apparatus adapted to carry out but one step or only a part of the process, the process claim, being in this instance the more intensive, would control the classification. (See rule 28.)

Example: In a patent containing a claim for a process of roasting ore and then collecting the fumes, and another claim for a roasting furnace that is a mere material-heating furnace, the process claim would control; whereas, if one claim were for a method of roasting ores consisting of stirring the ore, applying heat to the same, and collecting the solids from the fumes, and the other claim were for a heating furnace having a stirrer and a fume arrester, the apparatus claim would control. And if a patent contained claims for a process of roasting ores, and other claims for a furnace susceptible of use in carrying out the process but equally useful in annealing glass or steel articles, the process claim would control.

(31) Where a patent claims a specified article of manufacture or other product, and also an instrument for making a part only of that specified article or other product, the product claim, being more intensive, should control the classification; so also in case of a claim for a product and a claim for an instrument performing any minor act with respect thereto. (See Rule 28.)

Example: Where a patent claims a particular construction of a riveted joint, and also a tool for calking the rivet, and where a patent claims a particular construction of shoe, and also a buttonhook for buttoning said shoe, the article and not the tool claims control.

(32) Where a patent contains claims to a process and a product, the process claims govern the classification in those cases where search among machines for making the product would have to be made, and such processes would be classifiable on the basis of the mode of operation, usually in the same class with machines for practicing such processes. (See Rule 28.)

Example: A patent having a claim for a process of making bifocal lenses, consisting in grinding the surface of one piece of glass to form a convex lens, heating another piece of glass until it is plastic, then forcing the ground surface of the first-named piece into the body of the latter and gradually cooling the lens-blank thus formed; and also a claim for a bifocal lens composed of two pieces of glass weld-united, would be classified in Glass-manufacture and cross-referenced into lenses. Or a patent having a claim to a process of making a metal plate with elongated perforations, consisting in forming round perforations in the plate and subsequently rolling the plate, thereby thinning and elongating the plate and elongating the openings; and also a claim to a metallic plate having relatively long and narrow perforations, would be classified on the basis of the process claim.

(33) Where a patent claims both process and product, and the alleged process is disclosed in the product, so that search would have to be made in the appropriate class of products, the product will be adopted as the basis of classification, and classification will be in the appropriate product class. (See Rule 28.)

Example: A claim for a process of making a pencil consisting in assembling a core of graphite with a sheathing of wood, and attaching a cap of rubber-composition to one end, would be classified as a pencil rather than as a process, because conception of the article is inseparable from the process and search must be made in the article class.

(34) Where a patent claims a process of making a composition of matter, and also the composition of matter, the claims will be classified in general in accordance with the classification of the composition of matter in all cases where the process is peculiarly adapted to produce the composition, as by setting forth the introduction or assemblage of particular ingredients, since those processes that include the selection of particular ingredients necessitate search among compositions having such ingredients. (See Rule 28.)

Example: A patent having a claim for a composition consisting of a mixture of caoutchouc and casein, and a claim for the process of preparing a rubberlike substance which consists in adding undissolved raw caoutchouc to casein and thoroughly mixing and kneading the mass, would be classified according to the composition.

(35) Where a patent claims a product such as a specific article of manufacture, or a specific composition of matter, and also claims a process of general application for making one of the parts of the article or one of the ingredients of the composition, the product claim should control the classification. (See Rule 28.)

Example: If a patent claimed a woven textile fabric having the yarns interlaced in a defined relation, and a process of spinning a yarn utilized in the fabric; or if a patent claimed a varnish composed of shellac, dissolved in wood alcohol, and a pigment, and also contained a claim for distilling wood to obtain the alcohol, the product claim would control the classification in each instance, and the process would be cross-referenced.

(D) PROCEDURE IN RECLASSIFYING WITHIN EXAMINING DIVISIONS.

(1) Do not start to make a new class or revise an old one with preconceived fixed notions respecting its scope and the particular subdivisions required. Wait until all patents pertinent to the subject have been seen and adequate knowledge of them acquired. In other words, make no *a priori* classification but discover and assemble all the facts and from them make your inductions. Then the common characteristics of the subject-matter of the class may be intelligently defined, the limitations of the class marked out, and its relation to other classes set forth. Bear in mind that the Patent Office classification deals with the subject-matter of the useful arts rather than merely with existing classes, and that it is not therefore essential to retain classes that are found to be composed of unrelated or too distantly related units.

Assuming that the work of reclassification is undertaken by examiners who are already experienced in the subject-matter to be classified, procedure as follows is recommended:

(2) Utilizing your previously acquired knowledge of the patents in the class you are about to revise, subdivide the existing subclasses into bundles, so as to assemble in each bundle those patents deemed to have the closest resemblance to each other. For the purpose of this assemblage, consider each patent as an entirety and not with reference to various more or less important parts of that entirety.

Example: An apparatus comprising in alleged combination a means for decanting water, a means for electrolytically depositing impurities, and a means for filtering the water, should not be classified either as a decanter, an electrolytic apparatus, or a filter, but should be classified as a combination apparatus (taking it to the general art of liquid purification). So also the combination of a rotary printing-press with a folding mechanism, and a wrapping mechanism, should not be classified merely as a rotary printing-press, a folding machine, or a wrapping machine, but should be classified as a combination of the several mechanisms as an entirety whose functions carried out in proper order produce a printed and wrapped newspaper.

(3) Write an approximate or tentative definition of the matter thus assembled in each bundle and attach it to its appropriate bundle.

(4) Where it appears that the subject matter of any bundle formed from the patents of any subclass is analogous to matter in other subclasses of the same class or in other classes, a note should be added to that effect so that this matter may be given special consideration.

(5) When the same examiner or different examiners are working on different subclasses containing analogous matter, parallel lines of subdivision should be followed wherever possible, in order to effect an arrangement that will facilitate comparisons.

(6) When subdividing a group of more or less complex organized structures or mechanisms, note should be taken of subcombinations that form or it is thought should form the basis of other subclasses, either in the same or different classes, into which those details may be collected, either classified therein originally or by cross-reference.

Example: Assuming that the combination of press, folder, and wrapping mechanism, referred to in a preceding paragraph is to be classified in a class of Printing, on the entirety as a combination having the function of printing, plus other functions, and that folding and also wrapping are separately classified, then the particular type of press should be selected to be cross-referenced into a press-type subclass of the class of Printing, such as "Presses, rotary," while the folding mechanism and the wrapping mechanism would be noted for cross-reference to other appropriate classes. Also, any part of the printing press, such as the inking mechanism, specifically described, should be noted for cross-reference into a subclass of Printing designed to receive the inking mechanism as a part of the printing press.

(7) After a knowledge of the material of the class has been obtained by estimating the resemblances between the individual patents that

have been assembled in the several groups, comparison of these groups, represented by the bundles of photolithographs, by the aid of the approximate definitions and notes attached can be made. It can then be decided whether all of these groups are to be retained in the proposed class, and the retained groups can be organized into a class with the subclasses arranged so as to bring those subclasses having the strongest resemblances in closest relation, and in such order as to comply with the conventions adopted in the official classification. It will probably be necessary to have one subclass or group as broad as the definition of the class, to take unclassifiable matter and to provide for possible future inventions.

(8) Up to this point, more or less cursory attention may be given individual patents; but when an arrangement of subclasses shall have been tentatively adopted it will be necessary to consider each patent carefully to ascertain whether it is properly placed.

(9) Patents that, considered as an entirety, cover means not peculiar to the class or subject-matter being revised, should, in general, when assembled in groups as indicated, have a note attached indicating not only want of limitation to the subject-matter of the class but also a more appropriate class to receive them if such there be. Although a very large proportion of patents can be accurately classified as indicated by their titles and stated uses, the mere fact that in a patent found in a class the invention is called in the specification or claims by a name peculiar to the class is not of itself a reason for considering it peculiar to the class. A gas and liquid contact apparatus may be called a heater, a cooler, a gas-washer, a water-carbonator, a condenser, a disinfecter, an air-moistener, and so on, depending upon accident of use. If there are not elements in some claim to confine the means described distinctively to what it is called, or if there are no functions necessarily implied in the means claimed peculiar to the named use, the patent should not be kept in the class unless there is no other class in the office that can receive it.

Example: Where the matter claimed is a metal beam of peculiar cross-section, it should be classified with other metal beams, as in Class 189, Metallic Building Structures, even if it is named in the application as a beam of particular use, as a railroad-tie, car-sill, bridge-tie, etc. Should a mere dash-pot be found classified in Class 171. Electricity, Generation, a note should be attached indicating that it belongs in the appropriate element class.

(10) In giving this final careful attention to the patents, each should also be scanned to see whether it contains matter that should be cross-referenced. A few lines obscurely located in a specification may contain a disclosure of a most valuable invention. No class can be deemed complete until the disclosures appropriate to it found as parts of more complex inventions in other classes, or disclosures of analogous matter in other classes, are either cross-referenced into it or cross search-notes made.

(11) To indicate cross-references, from one subclass to another within the class or from the class under consideration into another class, attach a small slip of paper to the patent and mark on the slip the subclass number in which the cross-reference shall be mounted. If the matter to be cross-referenced relates only to a portion of a voluminous patent, the portion of the specification and drawing to be cross-referenced should be indicated. If the cross-reference falls outside the class, the class number should be noted in addition to the subclass number.

(12) Should it be found that the handling of copies in making examinations detaches the cross-reference slips, it may be advisable to mark lightly but legibly in pencil on the lower right-hand corner of the examiner's photolithograph the number of the subclass or subclasses into which it is to be cross-referenced, or the number of the class and subclass in case it is to be cross-referenced to another class.

(13) Whether cross-reference notations are written on a separate slip or on the photolithograph, the number of the class and subclass into which a patent is to be cross-referenced should always be preceded by X (thus X 101–23) in order to distinguish the original classification notation from the cross-reference notation and enable sorting and indexing to be done without confusion.

(14) To indicate cross-references from other classes into the one being reclassified, set down the number of the patent in a notebook, placing after the number (1) the class and subclass in which it is classified; and (2) the number of the class and subclass in which it is to be cross-referenced.

(15) Should new subclasses be formed or transfers of patents be determined on, and lists of the patents, instead of copies thereof, be furnished clerks for the purpose of making such subclasses and transfers and correcting the official indexes and other records, each patent should be listed by number in column to the left of a sheet of paper or notebook, and opposite each patent number on the same sheet should be written (1) the number of the class and subclass in which it is officially classified; (2) the number of the class and subclass to which it is intended to transfer it; and (3) the numbers of the classes and subclasses, preceded by X, into which it is intended to cross-reference it.

Note: Even though examiners engaged in reclassifying are confident of their ability to classify and arrange on better principles than those that have been applied thus far in the classification, they ought, nevertheless, to follow those principles under which one-half of the patents have been classified. Until the Commissioner of Patents orders examiners to classify on other principles, it is expected they will follow those now established.

○

[illegible]

2

THE RECORDS OF ASSIGNMENTS

OF

PATENT PROPERTY

And their relation to the prosecution and examination
of applications for patent.

A paper read MAY 8th, 1914, before the Examining Corps
of the United States Patent Office

By

[illegible]
Chief of Assignment Division
U.S. Patent Office.

Copyrighted by [illegible]
June 10, 1914

THE RECORDS OF ASSIGNMENTS
OF
PATENT PROPERTY

And their relation to the prosecution and examination of applications for patent.

A paper read May 28, 1914, before the Examining Corps of the United States Patent Office

by

WILLIS B. MAGRUDER,
Chief of Assignment Division,
U. S. Patent Office.

Copyrighted Cl. A 373,759
June 10, 1914.

INDEXING AND BRIEFING.

Prior to 1870 these indexes were made from party to party, as are records of transfers of realty, but it was found that if any particular paper in a chain of title was not recorded, all subsequent assignments under the same patent were lost in making a search. Therefore in 1870 a special appropriation was obtained from Congress that new indexes might be made under the *name of the inventor,* and such indexes and digests were made by the clerks of the Patent Office working outside of Office hours, and in due time a full set of digests were made and were accessible to the public for searches, and said system of indexing under the name of the inventor has been carried out to the present date.

These digests contain the name of the inventor; the assignor or the party who gives or grants the rights in the assignment; the assignee, purchaser or beneficiary in the assignment; the date of the writing; the date of its record; the description or identification of the invention, application or patent transferred which is recited in the assignment itself; a brief description or digest of the interests or rights transferred; designation where the same is fully recorded; when the original was returned, and to whom. This digest is particularly full and clear, being a brief description of the essentials of the instrument, so that one searching the records may find spread upon such digest a condensed description of the writing.

Digesting is one of the important branches of the work done in the Patent Office and its value is inestimable. Into this work enter analysis, analogy, logic, common sense and office precedent. There are no written rules in making these digests, the deeds being so diverse as to render rules of little value. Years ago the digesting was done in a most informal manner, being little more than an index, but for many years past, and especially since the inauguration of a new system in 1898, of briefing on sheets preparatory to revision, alteration and copying into the Digest books, it would be difficult to find a more concise, correct and accessible record and index from which searches can be made.

These briefs are copied to form certified "Abstracts of Title" for use in the courts, and are constantly being searched by attorneys and others interested in patents, and without the "Digest of Assignments" their work would be not only difficult and voluminous, but the expense thereof would be very largely increased.

At the present time there are 478 of such Digests of Assignments. They are separated alphabetically in the 26 letters of the alphabet, to contain briefs of deeds under the initial letter of the surname of the inventor. Consequently in making a search you would ask for the books under the initial of surname, from a certain date, at least two years prior to the date of filing the application for the patent, to cover the term that the application may have been pending and to obtain access to any assignments recorded prior thereto. In each of these volumes is a separate and detachable index, and this index is made under the *given names of the inventor,* and under the first vowel of the surname.

SEARCHING.

If it be desired to ascertain whether any assignments under the name of John Wesley Richardson are of record, you obtain the books labeled *R,* turn to the index of first name, in this search under the letter *J* and you will find thereunder the combinations Ra, Re, Ri, Ro, Ru, and Ry, so that it is only necessary in making the search for the name of John Wesley Richardson to look under the combination Ri, and if there be any assignments in that volume under said inventor's name, the number of the page will be opposite his name, and if the name John Wesley Richardson does not appear in this combination it is certain that no assignments from him or under his patents are of record in said book. Surnames beginning with a vowel and having no other vowel are indexed as if the initial stood for the first letter of the surname and also as the vowel, as, for example, Erp, Olds, etc. will be found in the combination E-e, O-o, respectively.

It will be apparent that searches are by this system of indexing materially shortened, and that the information sought is particularly accessible.

Under the system of indexing only under the name of the inventor, instruments from an assignee to a third assignee, and from said party to others, will be found under the name of the inventor, and not from party to party, as before mentioned.

make in the same class of invention." This has been construed to grant at least an equitable interest in any further or future inventions that the inventor may make, and in making searches under a particular patent such writings as above must be taken into consideration and weighed, in order that the rights of the parties mentioned may be determined.

Experience in the Assignment Division of the Patent Office has made me appreciate the extreme carelessness displayed in drawing up instruments in writing affecting the title to patents or applications. In fact some of the papers presented for record show evidence of almost, I might say, criminal carelessness. No sane person in drawing up a deed of real estate would fail to recite the metes and bounds of the property, as that would seem to be the first essential, but many instruments are presented for record in the Patent Office that have no identification whatever. It will be appreciated what an assignment would amount to for instance, if Thomas A. Edison should transfer an electrical invention "for which I am about to make application" without any other identification, inasmuch as Mr. Edison is a prolific inventor, having filed many applications and obtained many patents for improvements in electrical subjects.

Identification of the application or patent transferred is of the utmost importance. The rules provide that if the assignment be dated subsequently to the application, the assignment must identify the application by date of execution, date of filing or serial number of the application, "so that there can be no mistake as to the particular invention intended''—Rule 26.

If the application and assignment be executed on the same date, the assignment should identify the application as "executed of even date herewith," that there may be certainty as to the particular invention and application affected.

If more than one application for the same class of invention be executed upon the same date, care should be exercised to designate each by some arbitrary symbol, that each may be perfectly identified if it be desired to assign either of them. Such applications may be designated by letters, as, for example, "Case A," "Case B,"

"Case C," etc., or by numerals, as, for example, "Case 1," "Case 2," etc.

In the decision *Ex Parte* Williamson, 88 Official Gazette, 2065, the Commissioner says:

> "It is possible that the assignment mentioned above has reference to the invention covered by application No. —; but there is no certainty of this, and in such matters the Office requires certainty and not mere probability to justify its action."

The proportion of interest transferred should also be carefully and correctly recited. If an inventor has transferred a part of his interest to one party and desires to sell to another party a part interest, the proportion to each should be designated as a certain part of the *whole and entire interest,* rather than as a portion of "my interest."

If two transfers, dated on the same date, sell to each of two parties "one-quarter of *my* right, title and interest," it cannot be determined which writing was first executed, thereby transferring one-quarter of the *whole* interest, or which was thereafter executed, thereby transferring one-quarter of the *remaining* interest. If each writing transferred "one-quarter of the *entire right, title and interest*" the proportion assigned to each would be definite.

REQUEST TO ISSUE PATENT TO ASSIGNEE.

A number of decisions hold that an assignment of an unpatented invention which fails to make a request that should a patent be granted upon the application transferred, it issue to the assignee for his interest, is merely an executory contract and does not transfer legal title.

In the decision Harrison v. Morton, Court of Appeals of Maryland, 83 Md. 476; 76 Official Gazette, 1275, before Judges McSherry, Bryan, Page, Russum, Boyd and Fowler; Judge Fowler says:

> "It follows from what Chief Justice Taney says in Gaylor vs. Wilder (10 How. 480), that prior to the issue of Letters Patent to the inventor he has an imperfect inchoate right to its use, which he

Of course in assignments of applications where there is a request to issue, the Commissioner of Patents is authorized to withhold the assignment from record and require certain identification or the correction of informalities therein, inasmuch as he is requested to act thereon in the issuance of the patent; but in deeds for patents he has no such authority, and consequently very many instruments are spread upon the assignment records of the Patent Office which are utterly worthless, owing to lack of identification of patents affected.

CONFLICTING ASSIGNMENTS.

Where there are conflicting legal assignments of record under a particular application, the senior assignee is, under the practice of the Office, allowed to intervene in the prosecution of the application, (Sparkes v. Small, 113 O. G. 1970) but should such case terminate in a patent said patent would issue to the inventor "his heirs or assigns," that the courts might determine between the contesting parties the ownership of the patent (*In Re* Moller, 108 O. G., 2144). It is therefore questionable as to the proper practice of recording assignments of pending applications.

RELATION OF ASSIGNMENTS TO APPLICATIONS.

What then is the relation existing between the assignment records and the examination of applications and the granting of patents thereon? The law, the rules of practice and many decisions make such relationship very close and intimate. Section 4895 Revised Statutes provides that "patents may be granted and issued or reissued to the assignee of the inventor or discoverer; but the assignment must first be entered of record in the Patent Office," and this section taken in connection with Section 4916 of the Revised Statutes, providing for the reissuing of letters patent "to the patentee, or in case of his death or of an assignment of the whole or any undivided part of the original patent, then to his executors, administrators, or assigns for the unexpired part of the term of the original patent" necessitates a careful examination of the assignment records in the prosecution of applications, and especially of reissue applications. These two statutes devolve upon the Office the responsibility of issuing patents and re-issuing patents to the legal representatives, or to the assigns of the inventor.

ABSTRACTS OF TITLE.

Rule 86 of the Rules of Practice requires that a re-issue application must be accompanied by "an order for a certified copy of the abstract of title to be placed in the file, giving the names of all assignees owning an undivided interest in the patent. In case the application be made by the inventor it must be accompanied by the written assent of such assignees." If there be not filed with the application an abstract of title as required by Rule 86 the first action in the examination of the reissue application should therefore be to require the filing of such abstract, to ascertain if there be an assignee in the patent, and to require the assent of such assignee if the same be not already in the petition.

Frequently when reissues are granted and the files are forwarded to the Assignment Division for final examination and for the purpose of continuing the abstract of title to date, it is noted that the abstract of title has never been ordered nor filed with the application, also that the assent of the assignee is not in the file, necessitating the return of the application to the examiner and further delay, that these requirements may be fulfilled.

ADMINISTRATORS AND EXECUTORS.

Prior to 1909 when an inventor died during the pendency of his application, the practice required that a certified copy of Letters of Administration or Letters Testamentary be filed in each of decedent's applications pending before the Office. On January 20th, 1909 Order 1792 (reported in 138 O. G., 970) was issued requiring the filing in the application *or the recording in the assignment records* of the authority of the administrator or executor to intervene in the prosecution of the application, such authority being evidenced by a certified copy of Letters of Administration or Letters Testamentary; and for uniformity of practice the Chief of the Assignment Division was charged with the duty of passing upon the sufficiency of such authority.

THE RECORDS OF ASSIGNMENTS

OF

PATENT PROPERTY

And their relation to the prosecution and examination
of applications for patent

[illegible] [illegible] [illegible] before the [illegible]
of the United States Patent Office

by

[illegible]
Chief of Assignment Division,
U. S. Patent Office.

Copyrighted [illegible]
[illegible]

INDEXING AND BRIEFING.

Prior to 1870 these indexes were made from party to party, as are records of transfers of realty, but it was found that if any particular paper in a chain of title was not recorded, all subsequent assignments under the same patent were lost in making a search. Therefore in 1870 a special appropriation was obtained from Congress that new indexes might be made under the *name of the inventor*, and such indexes and digests were made by the clerks of the Patent Office working outside of Office hours, and in due time a full set of digests were made and were accessible to the public for searches, and said system of indexing under the name of the inventor has been carried out to the present date.

These digests contain the name of the inventor; the assignor or the party who gives or grants the rights in the assignment; the assignee, purchaser or beneficiary in the assignment; the date of the writing; the date of its record; the description or identification of the invention, application or patent transferred which is recited in the assignment itself; a brief description or digest of the interests or rights transferred; designation where the same is fully recorded; when the original was returned, and to whom. This digest is particularly full and clear, being a brief description of the essentials of the instrument, so that one searching the records may find spread upon such digest a condensed description of the writing.

Digesting is one of the important branches of the work done in the Patent Office and its value is inestimable. Into this work enter analysis, analogy, logic, common sense and office precedent. There are no written rules in making these digests, the deeds being so diverse as to render rules of little value. Years ago the digesting was done in a most informal manner, being little more than an index, but for many years past, and especially since the inauguration of a new system in 1898, of briefing on sheets preparatory to revision, alteration and copying into the Digest books, it would be difficult to find a more concise, correct and accessible record and index from which searches can be made.

These briefs are copied to form certified "Abstracts of Title" for use in the courts, and are constantly being searched by attorneys and others interested in patents, and without the "Digest of Assignments" their work would be not only difficult and voluminous, but the expense thereof would be very largely increased.

At the present time there are 478 of such Digests of Assignments. They are separated alphabetically in the 26 letters of the alphabet, to contain briefs of deeds under the initial letter of the surname of the inventor. Consequently in making a search you would ask for the books under the initial of surname, from a certain date, at least two years prior to the date of filing the application for the patent, to cover the term that the application may have been pending and to obtain access to any assignments recorded prior thereto. In each of these volumes is a separate and detachable index, and this index is made under the *given names of the inventor,* and under the first vowel of the surname.

SEARCHING.

If it be desired to ascertain whether any assignments under the name of John Wesley Richardson are of record, you obtain the books labeled *R,* turn to the index of first name, in this search under the letter *J* and you will find thereunder the combinations Ra, Re, Ri, Ro, Ru, and Ry, so that it is only necessary in making the search for the name of John Wesley Richardson to look under the combination Ri, and if there be any assignments in that volume under said inventor's name, the number of the page will be opposite his name, and if the name John Wesley Richardson does not appear in this combination it is certain that no assignments from him or under his patents are of record in said book. Surnames beginning with a vowel and having no other vowel are indexed as if the initial stood for the first letter of the surname and also as the vowel, as, for example, Erp, Olds, etc. will be found in the combination E-e, O-o, respectively.

It will be apparent that searches are by this system of indexing materially shortened, and that the information sought is particularly accessible.

Under the system of indexing only under the name of the inventor, instruments from an assignee to a third assignee, and from said party to others, will be found under the name of the inventor, and not from party to party, as before mentioned.

make in the same class of invention." This has been construed to grant at least an equitable interest in any further or future inventions that the inventor may make, and in making searches under a particular patent such writings as above must be taken into consideration and weighed, in order that the rights of the parties mentioned may be determined.

Experience in the Assignment Division of the Patent Office has made me appreciate the extreme carelessness displayed in drawing up instruments in writing affecting the title to patents or applications. In fact some of the papers presented for record show evidence of almost, I might say, criminal carelessness. No sane person in drawing up a deed of real estate would fail to recite the metes and bounds of the property, as that would seem to be the first essential, but many instruments are presented for record in the Patent Office that have no identification whatever. It will be appreciated what an assignment would amount to for instance, if Thomas A. Edison should transfer an electrical invention "for which I am about to make application" without any other identification, inasmuch as Mr. Edison is a prolific inventor, having filed many applications and obtained many patents for improvements in electrical subjects.

Identification of the application or patent transferred is of the utmost importance. The rules provide that if the assignment be dated subsequently to the application, the assignment must identify the application by date of execution, date of filing or serial number of the application, "so that there can be no mistake as to the particular invention intended''—Rule 26.

If the application and assignment be executed on the same date, the assignment should identify the application as "executed of even date herewith," that there may be certainty as to the particular invention and application affected.

If more than one application for the same class of invention be executed upon the same date, care should be exercised to designate each by some arbitrary symbol, that each may be perfectly identified if it be desired to assign either of them. Such applications may be designated by letters, as, for example, "Case A," "Case B,"

"Case C,'' etc., or by numerals, as, for example, "Case 1," "Case 2," etc.

In the decision *Ex Parte* Williamson, 88 Official Gazette, 2065, the Commissioner says:

> "It is possible that the assignment mentioned above has reference to the invention covered by application No. —; but there is no certainty of this, and in such matters the Office requires certainty and not mere probability to justify its action."

The proportion of interest transferred should also be carefully and correctly recited. If an inventor has transferred a part of his interest to one party and desires to sell to another party a part interest, the proportion to each should be designated as a certain part of the *whole and entire interest,* rather than as a portion of "my interest."

If two transfers, dated on the same date, sell to each of two parties "one-quarter of *my* right, title and interest," it cannot be determined which writing was first executed, thereby transferring one-quarter of the *whole* interest, or which was thereafter executed, thereby transferring one-quarter of the *remaining* interest. If each writing transferred "one-quarter of the *entire right, title and interest*" the proportion assigned to each would be definite.

REQUEST TO ISSUE PATENT TO ASSIGNEE.

A number of decisions hold that an assignment of an unpatented invention which fails to make a request that should a patent be granted upon the application transferred, it issue to the assignee for his interest, is merely an executory contract and does not transfer legal title.

In the decision Harrison v. Morton, Court of Appeals of Maryland, 83 Md. 476; 76 Official Gazette, 1275, before Judges McSherry, Bryan, Page, Russum, Boyd and Fowler; Judge Fowler says:

> "It follows from what Chief Justice Taney says in Gaylor vs. Wilder (10 How. 480), that prior to the issue of Letters Patent to the inventor he has an imperfect inchoate right to its use, which he

make in the same class of invention." This has been construed to grant at least an equitable interest in any further or future inventions that the inventor may make, and in making searches under a particular patent such writings as above must be taken into consideration and weighed, in order that the rights of the parties mentioned may be determined.

Experience in the Assignment Division of the Patent Office has made me appreciate the extreme carelessness displayed in drawing up instruments in writing affecting the title to patents or applications. In fact some of the papers presented for record show evidence of almost, I might say, criminal carelessness. No sane person in drawing up a deed of real estate would fail to recite the metes and bounds of the property, as that would seem to be the first essential, but many instruments are presented for record in the Patent Office that have no identification whatever. It will be appreciated what an assignment would amount to for instance, if Thomas A. Edison should transfer an electrical invention "for which I am about to make application" without any other identification, inasmuch as Mr. Edison is a prolific inventor, having filed many applications and obtained many patents for improvements in electrical subjects.

Identification of the application or patent transferred is of the utmost importance. The rules provide that if the assignment be dated subsequently to the application, the assignment must identify the application by date of execution, date of filing or serial number of the application, "so that there can be no mistake as to the particular invention intended''—Rule 26.

If the application and assignment be executed on the same date, the assignment should identify the application as "executed of even date herewith," that there may be certainty as to the particular invention and application affected.

If more than one application for the same class of invention be executed upon the same date, care should be exercised to designate each by some arbitrary symbol, that each may be perfectly identified if it be desired to assign either of them. Such applications may be designated by letters, as, for example, "Case A," "Case B,"

"Case C," etc., or by numerals, as, for example, "Case 1," "Case 2," etc.

In the decision *Ex Parte* Williamson, 88 Official Gazette, 2065, the Commissioner says:

> "It is possible that the assignment mentioned above has reference to the invention covered by application No. —; but there is no certainty of this, and in such matters the Office requires certainty and not mere probability to justify its action."

The proportion of interest transferred should also be carefully and correctly recited. If an inventor has transferred a part of his interest to one party and desires to sell to another party a part interest, the proportion to each should be designated as a certain part of the *whole and entire interest,* rather than as a portion of "my interest."

If two transfers, dated on the same date, sell to each of two parties "one-quarter of *my* right, title and interest," it cannot be determined which writing was first executed, thereby transferring one-quarter of the *whole* interest, or which was thereafter executed, thereby transferring one-quarter of the *remaining* interest. If each writing transferred "one-quarter of the *entire right, title and interest*" the proportion assigned to each would be definite.

REQUEST TO ISSUE PATENT TO ASSIGNEE.

A number of decisions hold that an assignment of an unpatented invention which fails to make a request that should a patent be granted upon the application transferred, it issue to the assignee for his interest, is merely an executory contract and does not transfer legal title.

In the decision Harrison v. Morton, Court of Appeals of Maryland, 83 Md. 476; 76 Official Gazette, 1275, before Judges McSherry, Bryan, Page, Russum, Boyd and Fowler; Judge Fowler says:

> "It follows from what Chief Justice Taney says in Gaylor vs. Wilder (10 How. 480), that prior to the issue of Letters Patent to the inventor he has an imperfect inchoate right to its use, which he

Of course in assignments of applications where there is a request to issue, the Commissioner of Patents is authorized to withhold the assignment from record and require certain identification or the correction of informalities therein, inasmuch as he is requested to act thereon in the issuance of the patent; but in deeds for patents he has no such authority, and consequently very many instruments are spread upon the assignment records of the Patent Office which are utterly worthless, owing to lack of identification of patents affected.

CONFLICTING ASSIGNMENTS.

Where there are conflicting legal assignments of record under a particular application, the senior assignee is, under the practice of the Office, allowed to intervene in the prosecution of the application, (Sparkes v. Small, 113 O. G. 1970) but should such case terminate in a patent said patent would issue to the inventor "his heirs or assigns," that the courts might determine between the contesting parties the ownership of the patent (*In Re* Moller, 108 O. G., 2144). It is therefore questionable as to the proper practice of recording assignments of pending applications.

RELATION OF ASSIGNMENTS TO APPLICATIONS.

What then is the relation existing between the assignment records and the examination of applications and the granting of patents thereon? The law, the rules of practice and many decisions make such relationship very close and intimate. Section 4895 Revised Statutes provides that "patents may be granted and issued or reissued to the assignee of the inventor or discoverer; but the assignment must first be entered of record in the Patent Office," and this section taken in connection with Section 4916 of the Revised Statutes, providing for the reissuing of letters patent "to the patentee, or in case of his death or of an assignment of the whole or any undivided part of the original patent, then to his executors, administrators, or assigns for the unexpired part of the term of the original patent" necessitates a careful examination of the assignment records in the prosecution of applications, and especially of reissue applications. These two statutes devolve upon the Office the responsibility of issuing patents and re-issuing patents to the legal representatives, or to the assigns of the inventor.

ABSTRACTS OF TITLE.

Rule 86 of the Rules of Practice requires that a re-issue application must be accompanied by "an order for a certified copy of the abstract of title to be placed in the file, giving the names of all assignees owning an undivided interest in the patent. In case the application be made by the inventor it must be accompanied by the written assent of such assignees." If there be not filed with the application an abstract of title as required by Rule 86 the first action in the examination of the reissue application should therefore be to require the filing of such abstract, to ascertain if there be an assignee in the patent, and to require the assent of such assignee if the same be not already in the petition.

Frequently when reissues are granted and the files are forwarded to the Assignment Division for final examination and for the purpose of continuing the abstract of title to date, it is noted that the abstract of title has never been ordered nor filed with the application, also that the assent of the assignee is not in the file, necessitating the return of the application to the examiner and further delay, that these requirements may be fulfilled.

ADMINISTRATORS AND EXECUTORS.

Prior to 1909 when an inventor died during the pendency of his application, the practice required that a certified copy of Letters of Administration or Letters Testamentary be filed in each of decedent's applications pending before the Office. On January 20th, 1909 Order 1792 (reported in 138 O. G., 970) was issued requiring the filing in the application *or the recording in the assignment records* of the authority of the administrator or executor to intervene in the prosecution of the application, such authority being evidenced by a certified copy of Letters of Administration or Letters Testamentary; and for uniformity of practice the Chief of the Assignment Division was charged with the duty of passing upon the sufficiency of such authority.

On October 22nd, 1909, the above order was modified by Order 1827 (reported in 148 O. G., 837) requiring that such authority " shall *in all cases* be *recorded* in the assignment records of this Office," and also providing that a reference to this record should be placed in each application involved.

Under date of January 13th, 1910, Order 1838 (reported in 151 O. G., 453) was issued, modifying the two previous orders, providing that "the *examiner* will require the recording in the Assignment Division of a certificate of such appointment, or a certified copy of Letters Testamentary or Letters of Administration in each case before finally passing the case to issue;'' and under date of October 14th, 1913, Order 2076 (reported in 195 O. G., 543) provided that the "allowance of the application will not be withheld nor the application withdrawn from issue if the executor or administrator does not intervene; modifying Order 1838.

It will be apparent that when an executor or administrator intervenes in the prosecution of an application, or when it is suggested that the inventor is dead, the assignment records should be examined and if the proper authority of the representative of decedent be not found the examiner should require the recording of the proper authority of such representative, so that the patent when issued would issue to the executor or administrator, or his assigns, and that such representative might ratify the actions in the case by the attorney after the death of the applicant.

DIVISIONAL APPLICATIONS, ETC.

Reissue applications, renewal applications, divisional applications, refiled applications, substitute applications and continuation applications are all controlled in ownership by the assignment of the original or parent case. As far back as 1887 it was established by the Court decision Puetz vs. Bransford, 39 O. G., 1083, that:

> "An assignment before application for letters patent 'of the full and exclusive right to the invention as fully set forth in the specification' car-

> ries with it whatever patents may issue upon the divisions of the application required by the rules of the Patent Office."

If a parent case be assigned the renewal, refiled, substitute or continuation applications are also affected by said assignment, as the invention is owned by the assignee of the parent case. In the case of renewals the original file wrapper in each case is used, and as the assignee's name appears indorsed thereon it is only necessary to verify such indorsement with the assignment records; but in the case of divisional applications an order was issued November 25th, 1896, (Order 1111) which is applicable also to refiled applications, substitute applications and continued applications, providing that:

> "The examiner will make an entry in red ink on the face of the file wrapper * * * of the serial number and filing date of the original application. The heading of the printed specification and the record of assignments will conform to this entry."

This order was reiterated substantially (providing for a different place on the file wrapper for such entry) by Order 1832 on December 3rd, 1909. The observance of this order is comparatively uniform throughout the Office, but occasionally an application is not so indorsed, and in one case lately a Certificate of Correction was necessitated by the failure of the examiner to make the proper indorsement of the parent case upon the file wrapper of the divisional case, and in consequence thereof the patent issued to the inventor when it should have issued to the assignee of record in the parent case.

The nomenclature of the different applications that "have been carved out of" the original case or contain only the same invention, has become somewhat confused owing to the decision in 1910 *Ex Parte* Kruse, 157 O. G., 208, which is the foundation for designating an application as a "continuation *in part*:"

> "A subsequent application may, however, be a continuation of an older application, when the two have common subject matter, even though the later application may contain matter which is a departure from that which is described in the

> original application. In such cases the applicant is entitled to the date of the original application for the subject matter which is common to both, and to the date of the latter application only for that matter which has been disclosed therein for the first time."

The question of ownership or title was not under consideration when this decision was made, but it will be evident that an application which is a "continuation in part" and contains matter not common to both cases, would not be so affected by an assignment of the parent case as to warrant the Office in issuing a patent upon such an application to the assignee. It is found that a number of such "continuation in part" applications are erroneously designated "continuations" only, and if such error be made in the indorsement on the file it is particularly misleading in the issuance of the patent. Care should be particularly exercised to recite the fact whether the application be a continuation, or only a "continuation *in part.*" In fact it is believed that an indorsement on the file is unnecessary in the case of a "continuation in part," such notation being made in the preamble to the specification only, and therefore should not appear in the heading to the printed patent, nor have any consideration regarding the title thereto, in the issuance of the patent.

Therefore, it is most earnestly urged that the examiner acquaint himself with the assignment records, especially when such records have bearing upon the prosecution of the application under consideration, and any aid necessary for the examination of the records will be gladly furnished, by the Assignment Division.

Harvey J. Ba

2a

ASSIGNMENTS

OF

PATENT RIGHTS.

A Brief Description of the Procedure in the Recording of Writings in the Assignment Records of the Patent Office; How to Make Searches Therein; Hints as to the Preparation of Assignments, and Several Decisions of the Courts Regarding the Effect of Recording Certain Writings.

BY

WILLIS B. MAGRUDER,

Chief of Assignment Division,

U. S. Patent Office.

Copyright, [illegible],
by
Willis B. Magruder.

Hayworth Pub. House, Washington, D. C.

ASSIGNMENTS

OF

PATENT RIGHTS.

A Brief Description of the Procedure in the Recording of
Writings in the Assignment Records of the Patent Office;
How to Make Searches Therein; Hints as to the
Preparation of Assignments; and Several
Decisions of the Courts Regarding the Effect
of Recording Certain Writings.

BY

WILLIS B. MAGRUDER,
CHIEF OF ASSIGNMENT DIVISION,
U. S. PATENT OFFICE.

COPYRIGHT, 1912,
BY
WILLIS B. MAGRUDER.

PREFACE.

As Chief of the Assignment Division of the United States Patent Office, inquiries are often propounded to me relating to assignments, the recording thereof, and the effect of certain rights granted under patents and applications for patents, and in order to answer them intelligently it has been necessary to search many works of reference, as well as to rely upon my experience of nearly thirty years in the Assignment Division.

The solicitation of a number of Attorneys has prompted me to publish this pamphlet, with the hope that it will prove of value to all interested in title matters pertaining to patent property.

WILLIS B. MAGRUDER.

Washington, D. C.,
January, 1912.

Assignments of Patents.

Section 4898 of the Revised Statutes provides that:

> "Every patent or any interest therein shall be assignable in law by an instrument in writing; and the patentee or his assigns or legal representatives may, in like manner, grant and convey an exclusive right under his patent to the whole or any specified part of the United States. An assignment, grant or conveyance shall be void as against any subsequent purchaser or mortgagee for a valuable consideration, without notice, unless it is recorded in the Patent Office within three months from the date thereof."

RECORD BOOKS.

In order to comply with said law the Patent Office has provided books for the record of such assignments as may be presented, and the assignment records of the Patent Office are intact from 1837 to the present date. In 1836 the entire records of the Patent Office were destroyed in a fire, and that is the reason why the records of assignments prior to 1837 are not in existence.

The books provided for the record of assignments are designated "Transfers of Patents," and contain 500 pages each, in alphabetical series, numbered from 1 to 88, and therefore the designation where an instrument is recorded is referred to by letter and number, as, for example, Liber H 77; W 76; or A 75, etc.

Since 1837 to the present date there are over 2,300 of these record books. It would therefore be an endless task to make a search of these volumes to ascertain the title to a patent; so it was necessary to have a separate index in which searches could be readily made, and such books were provided and designated "Digest of Assignments," in which there is an index of each instrument under the name of the inventor only, and consequently it is necessary to know the name of the inventor of the particular patent, application or invention under which a search is to be made, in order to make such a search.

INDEXING AND BRIEFING.

Prior to 1870 these indexes were made from party to party, as are records of transfers of realty, but it was found that if any particular paper in a chain of title was not recorded, all subsequent assignments under the same patent were lost in making a search. Therefore in 1870 a special appropriation was obtained from Congress that new indexes might be made under the *name of the inventor*, and such indexes and digests were made by the clerks of the Patent Office working outside of office hours, and in due time a full set of digests were made and were accessible to the public for searches, and said system of indexing under the name of the inventor has been carried out to the present date.

These digests contain the name of the inventor; the assignor or the party who gives or grants the rights in the assignment; the assignee, purchaser or beneficiary in the assignment; the date of the writing; the date of its record; the description or identification of the invention, application or patent transferred which is recited in the assignment itself; a brief description or digest of the interests or rights transferred; designation where the same is fully recorded; when the original was returned, and to whom. This digest is particularly full and clear, being a brief description of the essentials of the instrument, so that one searching the records may find spread upon such digest a condensed description of the writing.

Digesting is one of the important branches of work done in the Patent Office and its value is inestimable. Into this work enter analysis, analogy, logic, common sense and office precedent. There are no written rules in making these digests, the deeds being so diverse as to render rules of little value. Years ago the digesting was done in a most informal manner, being little more than an index, but for many years past, and especially since the inauguration of a new system in 1898, of briefing on sheets preparatory to revision, alteration and copying into the Digest books, it would be difficult to find a more concise, correct and accessible record and index from which searches can be made.

These briefs are copied to form certified "Abstracts of Title" for use in the courts, and are constantly being searched by attorneys and others interested in patents, and without the "Digest of Assignments" their work would be not only difficult and voluminous, but the expense thereof would be very largely increased.

At the present time there are 440 of such Digests of Assignments. They are separated alphabetically in the 26 letters of the alphabet, to contain briefs of deeds under the initial letter of the surname of the inventor. Consequently in making a search you would ask for the books under the initial of surname, from a certain date, at least two years prior to the date of filing the application for the patent, to cover the term that the application may have been pending and to obtain access to any assignments recorded prior thereto. In each of these volumes is a separate and detachable index, and this index is made under the *given names of the inventor*, and under the first vowel of the surname.

SEARCHING.

If it be desired to ascertain whether any assignments under the name of John Wesley Richardson are of record, you obtain the books labeled *R*, turn to the index of first name, in this search under the letter *J*, and you will find thereunder the combinations Ra, Re, Ri, Ro, Ru, and Ry, so that it is only necessary in making the search for the name of John Wesley Richardson to look under the combination Ri, and if there be any assignments in that volume under said inventor's name, the number of the page will be opposite his name, and if the name John Wesley Richardson does not appear in this combination it is certain that no assignments from him or under his patents are of record in said book. Surnames beginning with a vowel and having no other vowel are indexed as if the initial stood for the first letter of the surname and also as the vowel, as, for example, Erp, Olds, etc., will be found in the combination E-e, O-o, respectively.

It will be apparent that searches are by this system of indexing materially shortened, and that the information sought is particularly accessible.

Under the system of indexing only under the name of the inventor, instruments from an assignee to a third assignee, and from said party to others, will be found under the name of the inventor, and not from party to party, as before mentioned.

Following the regular index of names of sole inventors, there is found an index of *joint inventors*, together with names of firms and corporations that are registrants of trade-marks, labels or prints.

Under this system of indexing it is a prerequisite that each deed recite specifically the full name of the inventor or registrant of each invention, application, patent, design, trade-mark, label or print affected by said writing, that a definite index may be made under each name, but frequently a deed that should be recorded fails to contain such identification, for instance, a deed from a company of all its patents, etc., without enumerating same.

This situation necessitated a special index for such papers, and therefore additional indexes were prepared and designated "Irregular Transfers."

Instruments that do not recite the name of the inventor or registrant, or for other reasons are irregular, are indexed among the "Irregular Transfers," under the name of each person, firm, corporation or court, etc., named in instrument, and in making searches it is therefore necessary to continue the search in this index of "Irregular Transfers" under the names of all parties that are found in the search among the regular deeds, in order to have access to such unidentified deeds as may have been made and recorded by any of the owners disclosed by the search.

There are of record in the Assignment Division of the Patent Office all sorts of instruments in relation to the title to inventions, applications, patents, designs, trade-marks, labels, and prints, such as assignments, licenses, agreements, liens, mortgages, shoprights, decrees of court in relation to title, and other papers. It can be readily appreciated that from such a variety of writings there are a number of very informal writings presented for record, and much difficulty is experienced in intelligently spreading such instruments upon the digest of assignments, so that searches therein may disclose all papers that might in any way affect or relate to the subject matter of the search.

IDENTIFICATION AND PROPORTION ASSIGNED.

The inquiry has often been made why there cannot be an index under the numbers of the patents, as there is in most all other record offices in plat books, so that a person might at once see who owns a particular patent; but the answer to this question is that there are of record in the office many instruments that *may* affect title indirectly or equitably, but do not specifically refer directly thereto. It is a common practice for inventors, preparatory to even making an application for patent for their inventions, to solicit and obtain the aid of capitalists, and to secure the latter there is drawn an agreement or a transfer that the whole or a certain portion of said invention, after it becomes a patent, will be, or is, transferred to the party furnishing the money to develop the invention.

It will be apparent that at this time no identification of the invention is possible, inasmuch as the invention is probably only in the mind of the inventor, and has not even yet been reduced to writing in order to apply for a patent, and therefore there is no data or other means of referring to the invention except by its mere name. If such an instrument be found of record the courts might hold that it would be at least a lien or an equitable transfer of the invention that may become a patent; but should a patent be granted, such an instrument would be in the nature of an executory contract, and the party who has put up the money for the development of the invention, if denied a legal deed, has the right to go into court, if necessary, and compel a legal transfer from the inventor. In a number of transfers in which an inventor assigns a particular patent or application, specifically identifying same, there is also transferred "all improvements that I may make thereon" or "all improvements which I may make in the same class of invention." This has been construed to grant at least an equitable interest in any further or future inventions that the inventor may make, and in making searches under a particular patent such writings as above must be taken into consideration and weighed, in order that the rights of the parties mentioned may be determined.

Experience in the Assignment Division of the Patent Office has made me appreciate the extreme carelessness displayed in drawing up instruments in writing affecting the title to patents or applications. In fact some of the papers presented for record show evidence of almost, I might say, criminal carelessness. No sane person in drawing up a deed of real estate would fail to recite the metes and bounds of the property, as that would seem to be the first essential, but many instruments are presented for record in the Patent Office that have no identification whatever. It will be appreciated what an assignment would amount to, for instance, if Thomas A. Edison should transfer an electrical invention "for which I am about to make application" without any other identification, inasmuch as Mr. Edison is a prolific inventor, having filed many applications and obtained many patents for improvements in electrical subjects.

Identification of the application or patent transferred is of the utmost importance. The rules provide that if the assignment be dated subsequently to the application, the assignment must identify the application by date of execution, date of filing or serial number of the application, "so that there can be no mistake as to the particular invention intended." (Rule 26.)

If the application and assignment be executed on the same date, the assignment should identify the application as "executed of even date herewith," that there may be certainty as to the particular invention and application affected.

If more than one application for the same class of invention be executed upon the same date, care should be exercised to designate each by some arbitrary symbol, that each may be perfectly identified if it be desired to assign either of them. Such applications might be designated by letters, as, for example, "Case A," "Case B," "Case C," etc., or by numerals, as, for example, "Case 1," "Case 2," etc.

In the decision *ex parte* Williamson, 88 Official Gazette, 2065, the Commissioner says:

> "It is possible that the assignment mentioned above has reference to the invention covered by application

> No. —; but there is no certainty of this, and in such matters the Office requires certainty and not mere probability to justify its action."

The proportion of interest transferred should also be carefully and correctly recited. If an inventor has transferred a part of his interest to one party and desires to sell to another party a part interest, the proportion to each should be designated as a certain part of the *whole and entire interest,* rather than as a portion of *"my* interest."

If two transfers, dated on the same date, sell to each of two parties "one-quarter of *my* right, title and interest," it cannot be determined which writing was first executed, thereby transferring one-quarter of the *whole* interest, or which was thereafter executed, thereby transferring one-quarter of the *remaining* interest. If each writing transferred "one-quarter of the *entire right, title and interest"* the proportion assigned to each would be definite.

Several years ago there was presented for record an assignment in which it was recited that the inventor had made an application which was properly identified in the deed; that a party desired to obtain *one-third* interest therein; but the second clause in the writing transferred to the purchasing party a *one-half* interest, and a request was made that the Commissioner of Patents issue the patent that might be granted on the application, to the purchasing party, for the *entire* right, title and interest in the patent. The attorney presenting the instrument was called by telephone for the purpose of affording him an opportunity of withdrawing the instrument and preparing a proper and consistent writing. An office boy was sent to the Assignment Division to inspect the assignment, and looking the matter over he said "That is funny, ain't it." The writing was subsequently corrected to recite one-third interest in the three clauses thereof, so as to make them consistent. The writing was then recorded and a patent was granted to the assignee for a one-third interest, whereupon he immediately returned the patent to the Office for a Certificate of Correction, with the statement that he had purchased a *half* interest in the patent, and could not understand why the patent had issued to him for a *third* interest only.

This incident is recited for the purpose of showing the necessity of much care in the preparation of assignments of pending applications, as also of patents.

REQUEST TO ISSUE PATENT TO ASSIGNEE.

A number of decisions hold that an assignment of an unpatented invention which fails to make a request that should a patent be granted upon the application transferred, it issue to the assignee for his interest, is merely an executory contract and does not transfer legal title.

In the decision Harrison v. Morton, Court of Appeals of Maryland, 83 Md., 476; 76 Official Gazette, 1275, before Judges McSherry, Bryan, Page, Russum, Boyd and Fowler; Judge Fowler says:

> "It follows from what Chief Justice Taney says in Gaylor vs. Wilder (10 How., 480), that prior to the issue of Letters Patent to the inventor he has an imperfect inchoate right to its exclusive use, which he may perfect and make absolute by taking the steps required by law, and especially by having Letters Patent issued to him; or he may by an assignment of this inchoate right, coupled with a request to issue letters to his assignee, in compliance with Rule 26 of the Patent Office, transfer to such assignee a legal title to such invention. The legal title passes to the assignee under such an assignment, because he has under it, as the inventor had by law, the right to secure letters in his own name. But the only way in which such letters, which are the evidence of a perfect legal title, can be secured by the assignee, is by request of the inventor first, and of his assignees, as the case may be, expressed in the assignment. * * * The general rule seems to be that an assignment without request conveys only an equitable title."

Therefore in all assignments of pending applications it would seem to be absolutely necessary that the writing contain a request that the Commissioner of Patents issue any patent that might be granted thereon to the assignee for his interest. About seven out of ten assignments presented for record contain such a request, and when the patents are granted upon applications, the assignments whereof do not contain such request, there is invariably a complaint that the patent has not issued to the assignee; but such complaint is too late, inasmuch as the rules provide that the request must be "embodied in the assignment," which assignment must be recorded in the Patent Office before or at a date not later than that on which the final fee in the application is paid, in order to have the patent issue to the assignee. The Office is constantly calling in local attorneys to correct assignments that have not been carefully examined before presentation, and nearly all of the correspondence of the Assignment Division is in criticising carelessly prepared writings, and it would therefore seem that many of the assignments forwarded to the Patent Office are prepared by office boys and without any consideration whatever from the attorney.

FORM OF ASSIGNMENT.

A great many assignments are filled out on printed forms, and frequently an instrument is presented in which it is attempted to transfer a pending application by altering a blank form intended for the transfer of a patent, and some of such attempts in changing the phraseology of the writing, or in filling blanks, are ludicrous. In the Office Rules there are certain suggestive forms for assignments, but even these are not properly followed, and there appear of record among the assignment records some instruments that if taken into court would not be considered for a moment. Inasmuch as the law does not provide a particular form for assignments, the Office cannot control the same, and has no authority to withhold the same from record, except as a matter of courtesy, which sometimes is not appreciated.

Of course in assignments of applications where there is a request to issue, the Commissioner of Patents is authorized to withhold the assignment from record and require certain identification or the correction of informalities therein, inasmuch as he is requested to act thereon in the issuance of the patent; but in deeds for patents he has no such authority, and consequently very many instruments are spread upon the assignment records of the Patent Office which are utterly worthless, owing to lack of identification of patents affected.

ACKNOWLEDGMENT.

The law does not require that an assignment of a patent shall be witnessed, be under seal, nor that it should be acknowledged, but merely provides that such assignment shall be "by instrument in writing signed by the owner."

In 1894, in the decision American Cable Railway Co. v. Mayor of the City of New York, 60 Federal Reporter, 1016; 67 Official Gazette, 1334, the United States Circuit Court of Appeals, Second Circuit, Judge Wallace decided:

> "A copy of an assignment of letters patent, certified by the Commissioner of Patents to be a true copy from the records of the Patent Office, if objected to at the time of offer, is not competent evidence of title."

The reason stated by the Court was that

> "Section 4898 of the Revised Statutes does not make the recorded instrument evidence, does not require the assignment to be executed in the presence of any public officer, or to be acknowledged or authenticated in any way before recording, and does not provide or contemplate that it shall remain subsequently in the custody of the Office * * * We are aware of no principle which gives to such a record the effect of primary evidence, or of *prima facie* proof of the execution or genuineness of the original document."

After this decision the Scientific American, in commenting thereon, stated:

> "In view of the foregoing decision it will be well for those who are interested in patent property to take the precaution of having their deeds more fully authenticated and verified. Such documents should be executed before a notary public in the same manner that deeds and conveyances of real estate and other properties are certified."

In 1896, in the decision Standard Elevator Company et al., v. Crane Elevator Company et al., 76 Fed. Rep., 767-792;

77 O. G., 811, Judge Showalter, in giving the decision of the Circuit Court of Appeals, 7th Circuit, composed of Judges Woods, Showalter and Bunn, held

> "The record of an assignment is in law tantamount to a finding or certificate by the Commissioner that the original is genuine. It matters not that the Commissioner may act upon the mere assumption that whatever paper of this kind is presented for record is genuine. He is a public officer charged by law with the duty of recording only such as are genuine. The law attaches to his act in making the record, the *prima facie* presumption that the instrument copied upon his record-book is entitled to record—that is to say, is genuine. * * *
>
> This court cannot accede to the view announced in Mayor of New York v. American Cable Railway Co. The rule as understood and acted upon prior to that decision is considered by this court to be the law."

It will be observed from the foregoing that different circuit courts and courts of appeals do not agree upon this subject. As a matter of fact there are six decisions of the circuit courts in relation to this matter, three of which hold that certified copies of assignments from the records of the Patent Office are acceptable as evidence, whereas three other such courts hold that they are not evidence, if objected to, and that the original assignment must be proven as are other papers. This question has never been taken to the Supreme Court of the United States, so that we have these differing decisions.

Consequently by an act of March 3, 1897, in view of these conflicting decisions of the circuit courts, Congress enacted an amendment to Section 4898 of the Revised Statutes, as follows:

> "If any such assignment, grant or conveyance of any patent shall be acknowledged before any notary public of the several States or Territories or the District of Columbia, or any commissioner of the United States circuit court, or before any secretary of legation or consular officer authorized to administer oaths

> or perform notarial acts under section seventeen hundred and fifty of the Revised Statutes, the certificate of such acknowledgment, under the hand and official seal of such notary or other officer, shall be *prima facie* evidence of the execution of such assignment or conveyance."

This did not seem to meet the situation, as interpreted by the courts, inasmuch as it was held in the decision Eastern Dynamite Company v. Keystone Powder Manufacturing Co., in the Circuit Court, Middle District Penn., September 1st, 1908, 164 Federal Reporter, 47, by Judge Archbald. that the law, Section 892 of the Revised Statutes, providing that

> "'Written or printed copies of any records of the papers or drawings belonging to the Patent Office * * * authenticated by the seal and certified by the Commissioner or Acting Commissioner, shall be evidence in all cases wherein the originals could be evidence' * * * does not establish the due execution or genuineness of the paper which happens to be found there, which must be proved in the usual way. Nor is this affected by the act of March 3rd, 1897, which provides that if any assignment, grant, or conveyance of a patent shall be acknowledged before a notary public or certain other designated officers 'the certificate of such acknowledgment under the hand and official seal of such notary or other officer, shall be *prima facie* evidence of the execution of such assignment, grant, or conveyance.' An *assignment* so authenticated does not have to be otherwise proved, as by calling the subscribing witnesses, or by proof of the handwriting of the party who executed it, *but the document itself must still be produced,* and not a certified copy taken from the record, which in no respect is made a substitute. * * *The case is not to be ruled by analogy with the recording of deeds for the alienation of real estate, which depends upon the effect of local statutes, where, as in Pennsylvania for instance, an exemplification of the record is *expressly made evidence* 'as valid and effectual in law as the original deeds themselves.' Congress might have so provided, but the fact is that it has not done so, and that is the end of it."

So it would seem that an acknowledgment to a patent deed, while not specifically required by the law, is absolutely necessary in order that the original, when presented as evidence, may be accepted under the Statute 4898 as *"prima facie* evidence of the execution of such instrument or conveyance," notwithstanding that a certified copy from the records of the Patent Office may not be acceptable as evidence.

RECORDING WITHIN SPECIFIED TIME.

The requirement in the statute for recording assignments within three months is very generally misunderstood as applying to *all* assignments; but Section 4898, in which said provision appears, relates entirely and only to patents, and therefore assignments of patents only are required to be recorded within three months, in order to be good as against any subsequent purchaser without notice. The courts, however, have held that even for such instruments the statute is merely directory, inasmuch as any subsequent recording will suffice to vest the assignee with title except as to intermediate *bona fide* purchasers without notice. Pitts v. Whitman, 2 Story 609; 2 Robb 189; Brooks v. Byam, 2 Story 525; 2 Robb 161; Boyd v. McAlpin, 3 McLean 427; 2 Robb 277; Case v. Redfield, 4 McLean 526; 2 Robb 741.

The law contains another section in relation to the recording of assignments. Section 4895 of the Revised Statutes provides that

> "Patents may be granted and issued or reissued to the assignee of the inventor or discoverer; but the assignment must first be entered of record in the Patent Office."

The courts have held that, "respecting the recording of an assignment of an invention, it is enough within the terms of the sixth section of the act of 1837 if it be recorded at any time before the issuing of the patent." Gay v. Cornell, 1 Blatchford, 506.

It will be observed that assignments of pending applications are not required, therefore, to be recorded within three months, and it is a very common practice to withhold the recording of an assignment of a pending application until the application is about to become a patent, filing the assignment for record simultaneously with paying the final fee in the application. This practice is probably good, for the reason that if an assignment be spread upon record identifying an application by its date of execution, and said application should subsequently be placed in interference, the opponent, in order to obtain knowledge of the date of the application, frequently consults the assignment records to ascertain whether the other party has made an assignment giving such data, which is a distinct advantage in the preparation of his preliminary statement.

On the other hand, if the instrument be not recorded before the grant of the patent, it occasionally occurs that the relations of the assignor and assignee become strained, and the inventor makes an assignment to another party, attempting thereby to nullify the first assignment.

CONFLICTING ASSIGNMENTS.

Where there are conflicting legal assignments of record under a particular application, the senior assignee is, under the practice of the Office, allowed to intervene in the prosecution of the application, (Sparkes v. Small, 113 O. G. 1970); but should such case terminate in a patent said patent would issue to the inventor, that the courts might determine between the contesting parties the ownership of the patent. (In re Moller, 108 O. G., 2144). It is therefore questionable as to the proper practice of recording assignments of pending applications.

ASSIGNMENT BY OPERATION OF LAW.

Very little consideration is given by most patent attorneys to matters in relation to title, until a complicated case of ownership is presented to them for determination or disentangling, whereupon they usually attempt to apply the common law principles of transferring personal property.

In transfers of Patents there is a very general misunderstanding among the laity, and also among a great many of the legal profession, and that is, that patent property may be transferred as is personal property. The reason for this misunderstanding is, that it is not appreciated that patent property is established by statute, and therefore assignments thereof cannot be treated under the common law. In Robinson on Patents, Vol. 2, paragraph 766, the learned author states:

> "The rule that an assignment can be made only by the actual owner of the patented invention admits of no exception in the interest of creditors. Valuable as his property therein may be, it cannot be subjected to the payment of his debts by any of the ordinary methods of voluntary alienation. This is not due to any peculiar sanctity which the law attaches to this class of property, but to the fact that the statutes which create the monopoly provide no other mode of transferring it than through the voluntary act of its real owner. The ownership of a patented invention cannot be seized and sold on execution by a sheriff like a personal chattel, nor like other incorporeal rights does it vest in a receiver or a trustee in insolvency by virtue of the judicial decree of the court by which these various officials are appointed. Thus neither a bankrupt court nor a court of equity, nor any person acting under its authority, can affect the ownership of a patented invention without the actual or presumed co-operation of the individual in which such ownership is vested by the issue of the patent or by assignment from the patentee. Either of these courts may have the power to compel the owner to transfer the ownership by an assignment to the receiver or trustee, and a court of equity, on his refusal, may treat the equitable rights as vested in the creditors and appoint a trustee for the owner to convey the legal title, *in his name and behalf,* to the officer in charge of his bankrupt estate, but the title in all such cases is still derived from him on whom it was originally conferred. That Congress has the power at any time to meet this difficulty by creating methods of involuntary alienation there can be no doubt, but in the absence of such statutes and judicial orders the patented invention remains entirely and exclusively under the control of its owner, and may be retained or conveyed by him at his pleasure without reference to any existing condition of insolvency."

It will be observed that the above authority recites very clearly "that Congress has the power at any time to meet this difficulty," and Congress has by the Federal Bankrupt Act, (Act of July 1, 1898, 30 Stat. 565) enacted since the foregoing was written, provided for the vesting in the Trustee in Bankruptcy by process of law, the title of a bankrupt to all "interest in patents, patent rights, copyrights and trade-marks," but Congress has not as yet provided for the alienation of patent property by other lawful processes except in bankruptcy, and as late as 1909 in the decision Ball v. Coker et al., 168 Fed. Rep., 304, the Circuit Court of the District of South Carolina, Judge Brawley says:

> "It seems to me clear, therefore, that the mere appointment of a receiver does not in itself vest in him the title to a patent which will enable him to maintain a suit for infringement. A state court having jurisdiction of the parties may compel them to execute an assignment to the receiver * * * and in the event that any of the parties decline to execute such an assignment such reasonable time will be given as may enable the parties interested to apply to the state court for such orders as may be necessary to compel the needful assignments."

In Section 805, Vol. 2, Robinson on Patents, there is reiterated the method of properly transferring patents by operation of law, as follows:

> "That courts of equity, acting in aid of courts of law, have the authority to compel the owner of a patented invention to assign it to a trustee or receiver to be sold for the satisfaction of his judgment debts, seems now to be decided."

and cites a number of references so holding.

It is further stated:

> "This method satisfies all the requirements of the law. Where the owner refuses to execute the necessary conveyances, or is incapable of doing so, it has been held that the court of equity, in order to effectuate its own decree, may appoint a trustee to make

> the assignment *in the name and on behalf of* the recalcitrant or incapacitated owner, and that this conveyance is equivalent to one executed by himself."

Judge Coxe, in the United States Circuit Court of Northern District of New York, in 1896, in the decision Newton v. Buck, 75 O. G., 673, 72 F. R., 777, says:

> "The rule seems to be well settled that an assignment can only be made by the actual owner of the patent; that rights under the patent cannot be sold by a sheriff on execution, and do not, like other incorporeal rights, vest in a receiver."

JOINT OWNERS.

One other important fact in relation to assignments of patents is not understood by the general public, and that is that each of joint owners of patents is at liberty to manufacture, use and to sell his right as he may deem proper, without consent of his joint owner, unless there be a partnership agreement to that effect between them.

In the decision of Blackledge v. Weir & Craig Mfg. Co., 95 O. G., 275; 108 Fed. Rep., 71, the United States Circuit Court, Seventh Circuit, Judge Woods says:

> "The use of an invention by one of the co-owners or by his licensees is not the exercise of the entire monopoly conferred by the patent. That can be effected only by the joint or concurrent action of all owners. The separate action of any one owner or of his licensees can be an exercise or use only of his individual right, which, though exclusive of all besides, is not exclusive of the other patentees, their assignees, or licensees. On principle, therefore, there can be no accountability on the part of a part owner of an invention to other owners for profits made by the exercise of his individual right, whether it be by engaging in the manufacture and sale, or by granting to others licenses, or by assigning interests in the patent. His use of the invention in any lawful way is not an appropriation of anything which belongs to another. The separate rights of the other owners

> remain unaffected. They are equally free to use the invention in all legitimate ways for their individual profit. Each is entitled to the fruits of his endeavors, taking no risk and expecting no reward from enterprises in which he does not choose to join."

It would therefore not be necessary for a corporation having a large plant to obtain the *entire* right, title and interest in a patent in order to control the sale of the patented article. For if such a corporation having a particularly large plant capable of manufacturing the article at a low figure should obtain a portion of the undivided interest, even a hundredth part or less, it would be enabled to flood the country with the manufactured article, and probably sell the same at a less figure than the inventor or the owner or owners of the other 99-100 parts, provided the latter did not possess a plant to manufacture said article.

Therefore it would seem to be dangerous to transfer a portion of a patent unless the sale thereof was coupled with a partnership agreement.

MORTGAGES.

Should you mortgage real estate property to another, ordinarily you would be left in possession of your property until the mortgage was foreclosed, but in patent property it is entirely different, as the mortgagee becomes vested with the property at once, upon the recording of the mortgage.

In the Supreme Court of the United States in Waterman v. Mackenzie, 54 O. G., 1562, 138 U. S., 252, Mr. Justice Gray says:

> "By a mortgage of *personal property*, differing in this respect from a pledge, it is not merely the possession or a special property that passes, but, both at law and in equity, the whole title is transferred to the mortgagee as security for the debt, subject only to be defeated by performance of the condition or by redemption on bill in equity within a reasonable time, and the right of possession, when there is no express stipulation to the contrary, goes with the right of property."

> "A mortgage of *real estate* has gradually, partly by the adoption of rules of equity in courts of common law and partly by express provisions of statute, come to be more and more considered as a *mere security* for the debt, creating a lien or incumbrance only and leaving the title in the mortgagor, subject to alienation, levy on execution, dower, and other incidents of a legal estate; but the rules upon the subject vary in different States, and a mortgage is everywhere considered as passing the title in the land, so far as may be necessary for the protection of the mortgagee and to give him the full benefit of his security."
>
> "When it is provided by statute that a mortgage of personal property shall not be valid against third persons, unless the mortgage is recorded, a recording of the mortgage is a substitute for and (unless in case of actual fraud) equivalent to a delivery of possession, and makes the title and the possession of the mortgagee good against all the world."
>
> "A patent right is incorporeal property, not susceptible of actual delivery or possession; and the recording of a mortgage thereof in the Patent Office, in accordance with the act of Congress, is equivalent to a delivery of possession, and makes the title of the mortgagee complete toward all other persons, as well as against the mortgagor. The right conferred by Letters Patent for an invention is limited to a term of years, and a large part of its value consists in the profits derived from royalties and license fees."

From this decision it will be observed that patent property is to a certain extent treated as are chattels, but more particularly as collateral security. It is somewhat like the pledge of property with a pawnbroker, who holds the property until it is redeemed by repayment of the loan thereon, with interest, but is more particularly like a loan obtained from a bank, where collateral security, such as stocks and bonds, has been put up and held by the bank, which is often by power of attorney given the privilege of negotiating or selling said stocks or bonds should they deteriorate in value, in order to protect the loan. This is actual possession of the property, and patents have been so treated, because the actual possession of the *letters patent* granted by the Office is not essential to ownership, inasmuch as the statute provides that the rights conferred by a patent, such as to manufacture, use, sell, and transfer these rights to others, can only be alienated by recording in the Patent Office "an instrument in writing signed by the owner." Therefore, if a mortgage is made of patent property and the same is recorded, it passes the ownership thereof to the mortgagee until the mortgage has been satisfied and a retransfer from the mortgagee back to the mortgagor is recorded.

ASSIGNMENTS OF TRADE-MARKS.

Section 10 of the Trade-Mark law of February 20th, 1905, is as follows:

> "That every registered trade-mark, and every mark for the registration of which application has been made, together with the application for registration of the same, shall be assignable in connection with the good will of the business in which the mark is used. Such assignment must be by an instrument in writing and duly acknowledged according to the laws of the country or State in which the same is executed; any such assignment shall be void as against any subsequent purchaser for a valuable consideration, without notice, unless it is recorded in the Patent Office within three months from date thereof. The Commissioner shall keep a record of such assignments."

GOOD WILL OF THE BUSINESS.

The courts have always held before the enactment of the new law that there was no valid transfer of a trade-mark unless it be in connection with the business in which the mark was used. The Court of Appeals, District of Columbia, under date of June 1st, 1910, in the decision Mayer Fertilizer & Junk Co. v. Virginia-Carolina Chemical Co., 35 App. D. C. 425; 156 O. G. 539, Judge Van Orsdel, says:

> "The purpose of the trade-mark law is as much for the protection of the public as for the manufacturer or dealer. The public has a right to know the origin

> of goods and commodities which it purchases. The public comes to recognize commodities designated by a particular mark as the product of a certain dealer and as containing certain characteristics and qualities. If the owner of a mark be permitted to sell it unaccompanied by the business by which it has become known to the trade, for use on goods of the same general class, but possessing different characteristics and qualities, one of the purposes of the law has failed and a fraud upon the public sanctioned."

In the decision National Chemical Co., 134 O. G. 1298, Assistant Commissioner Billings held:

> "The primary purpose of a trade-mark is to denote ownership or origin, and if the mark is used by various persons in various localities on goods of their individual manufacture, then it fails to accomplish this purpose.
>
> While the law does not in terms forbid the recordation of such an assignment, it is believed that the clear intent of the Statute is that such an assignment should not be recorded.
>
> Section 2 provides that the applicant for the registration of a mark shall make oath that he or the firm or corporation in whose behalf he applies, is the owner of the mark, and that *no other person, firm or corporation has the right to use said mark.*
>
> Section 10 provides that the registered mark or a mark for the registration of which application has been made, shall be assignable in connection with the good will of the business in which it is used.
>
> Taking these sections together, it is believed that a paper purporting to grant a mere territorial right to the use of the mark is not recordable."

The syllabus of Eiseman v. Schiffer, 157 Fed. Rep., 473, is as follows:

> "Under Section 10 of the Trade-Mark Act, which provided that 'every mark * * * shall be assign-

> able in connection with the good will of the business in which the mark is used,' a trade-mark registered under the act cannot be assigned unless such good will is also transferred, and, when a trader has sold a particular article under a selected name to such extent as to secure registration, an assignment of the trade-mark confers no title on the assignee if the assignor continues to sell the same article, *although under a different name.*"

An examination of the decision, however, discloses the following dictum:

> "It is not contended that the original owner of the trade-mark shall go out of the dry goods business or that it shall cease to sell dry goods in the business to which it has not appropriated the trade-mark, but when a trader has sold some particular article under a selected name to such extent as to secure registration, he has established a *special* business in which that trade-mark is used, and if the trade-mark becomes so valuable as to induce him to sell it he must, as a condition of transfer under the statute, assign that *special* business with the trade-mark of which it was the parent."

While it was not contended in this case that the entire business should be transferred in connection with the trade-mark, certainly such a contention would be justified by Section 10 of the law, which provides that the mark may be sold "in connection with the good will of the business in which the mark is used."

If only one brand of a commodity and the business in connection with that brand is sold, the manufacturer could sell the same commodity under another brand unless he transferred the entire business of making that commodity, and it is believed that this was the intention of the law.

It might be contended that there is a *special* business in each brand that may be segregated and sold, leaving in the assignor the remaining brands in the same class of business, but if Congress had such an intention it would seem that the law would have been made to read: "in connection with such *special* business," and not, as it does, in connection with "the business."

In the decision Independent Baking Powder Co. v. Boorman, 175 Federal Reporter, 448, District Judge Cross (on page 450) says:

> "In dealing with this case, it is assumed, although denied by defendant's counsel, that a person may legitimately own and use in his business several different trade-marks upon the same article; but it does not follow from this that a person having a dozen trade-marks can assign all of them to as many different people, authorizing each of them to manufacture and sell the identical article to which all the marks were originally applied under the particular one specially assigned to him, while at the same time the assignor can continue to manufacture and sell the self-same article at the same place of business and affix thereto the single remaining unassigned trade-mark. Such a wealth of trade-marks might be perfectly valid in the hands of one party while conducting a single business, and might continue to be valid in the hands of a third party when assigned with the good will and business with which they originated, but when scattered in the manner indicated would work nothing but confusion and fraud. The law of trade-marks has not been so broadly applied, and cannot be, in my judgment, without overruling its underlying and well-established principles. If a man can establish and then assign 4 or 5 trade-marks, and still continue his original business unimpaired, he can, with almost equal facility, establish and assign 400 or 500. The ability to do this might constitute him a successful manufacturer of trade-marks and probably inure to his pecuniary benefit as a dealer therein; but the result could work only disaster to the public and legitimate trade-mark owners. But neither the good will of a business, nor the business itself, can be thus split up. I am persuaded that the use of decimal fractions will not be adopted for the purpose of determining just how much or how little of the good will of a business, or of the business itself, must be transferred with a trade-mark, in order

> that its assignment should be valid. It is sufficient to say in this connection, however, that the assignor cannot, after the assignment, continue the same identical business and at the same places as before, under unassigned trade-marks, and at the same time authorize his assignee to conduct the same business elsewhere under an assigned trade-mark. In either case the same business would be conducted."

From the above quoted decisions it is apparent that an instrument is not recordable which attempts to transfer anything less than the *complete business* in which the mark is used, or unless the sale of the mark and of the business be exclusive, and the assignor thereafter cease to manufacture the same or similar articles in the same class included within the "Classification of Merchandise under the Act of May 4, 1906."

Instruments in writing attempting to license the use of a trade-mark, or a grant to use a trade-mark within a limited territory, or an assignment of a trade-mark not including the sale of the *entire business* of the same class of merchandise to which the mark is applied, are not recordable in the Patent Office.

ACKNOWLEDGMENT.

Section 10 of the Trade-Mark Law requires that an assignment of trade-mark "must be * * * duly acknowledged according to the laws of the country or State in which the same is executed," and Commissioner Allen in the decision In re Hunter, 127 O. G., 1253, held:

> "If the laws of the country or State do not require assignments of trade-marks to be acknowledged or are silent on this point, it is believed to be necessary, in order to comply with the section mentioned, (Sec. 10) that there be an acknowledgment such as the laws of the country or State provide for other instruments in writing or legal documents of similar character."

IDENTIFICATION.

The rules governing trade-marks (63 et seq.) provide that

> "Such assignment must identify the application by serial number and date of filing, or when the mark has been registered, by the certificate number and the date thereof."

Therefore care should be exercised in drawing assignments of trade-marks to transfer in connection therewith "the good will of the business in which the mark is used"; that the assignment shall be acknowledged, as is provided for other instruments in writing of a like character; and that the assignment identify the application for trade-mark or the registered trade-mark, by its serial number and date of filing, or its registered number and its date of registry.

3

Public Use or Sale

by

F.A. Loeffler,
Principal Examiner, Division One.
U.S. Patent Office

Sept. 10, 1914.

Journal of the Patent Office Society

Vol. 4 No. 5 Page 231

Paper No. 3

4.

Abandonment of the Application.

by

C.H. Pierce,
First Asst. Examiner, Division One.
U.S. Patent Office

Sept. 10, 1914.

Journal of the Patent Office Society.

Vol. 4 No. 7 Page 321

Paper No. 4

Paper No. 5.

FX 5

THE GERMAN, AUSTRIAN, and HUNGARIAN PATENT OFFICES,

By

JOHN BOYLE, Jr.,
Second Assistant Examiner Classification Division, and,

TITUS ULKE,
Second Assistant Examiner, Division 34.

Sept 24, 1914.

These reports on the facilities and methods of doing business in the German, Austrian, and Hungarian patent offices are the results of our investigations during a visit to these offices in the summer of 1914.

No attempt has been made to make these reports exhaustive. In order to do so, it would be necessary to spend far more time than we had at our disposal and also to repeat much that has already been published. These are therefore only observations which we believed might be of special interest to those familiar with our own practice.

Further information regarding the German patent office can be found in the report of the Investigation of the U.S. Patent Office made by the President's Commission on Economy and Efficiency, 1912.

Of the three offices, the German holds out the greatest interest and our report on this office is the most exhaustive.

In all of the offices visited, we found the officials extremely cordial and attentive, and we wish to express our thanks here for the many courtesies shown us.

THE GERMAN PATENT OFFICE.

The first German patent law was passed in 1877, nearly a century after the passage of our first law. At that time we had already granted nearly 200,000 patents, we were receiving about 20,000 applications a year, and the examining corps consisted of eighty-eight examiners.

The law of 1877 was amended in 1891, and now a further amendment of the law is before the Reichstag, which, if passed, will become effective in 1916. The German system is a combination of our system of examination and the English system of opposition.

The patent is granted to the first applicant, and it is immaterial whether the applicant is the first and original inventor or whether it is an individual, firm, partnership, or corporation.

The question of validity of a patent is decided by the patent office. In an infringement suit, the court has no power to declare the patent invalid.

After five years from the date of the publication of the grant of the patent, the validity of the same, as lacking in novelty, cannot be attacked.

Articles of food and medicine are not patentable.

Materials produced by chemical processes are not patentable, but the processes therefor are patentable.

The duration of the patent depends on the payment of an annual increasing tax.

The full term of a patent is fifteen years from the date of application.

All papers that are received in the office are stamped with a consecutive number in the upper right-hand corner together with the date. Inasmuch as the date of filing is of great importance, great care is taken to stamp the papers strictly in the order of their receipt.

The German alphabetical index of applications under the name of the inventor is substantially the same as we keep in our application division. Their method of assigning new applications to the examining divisions is also practically the same as with us. They apparently do not have the same extensive conflict of opinion as to where an application should be assigned for examination as in our office. When such a case arises, it is submitted to the president for decision, but such cases are comparatively rare. The man in charge of assigning new applications, when questioned as to the sufficiency of their classification for the purposes of exact assignment of applications, stated that it was hardly satisfactory. He stated that they would like to avail themselves of the American classification, but did not seem to be able to make it fit into their scheme, in all cases.

The file wrapper has a pocket on the inside for the receipt of the drawing and also for a sheet on which is endorsed various informal matters by the examiners as the case is passed around among them for various purposes. The drawing is smaller than ours, to-wit: 21 by 33 cm. in size, within the border lines, and the only signature thereon is that of the applicant. The serial number and classification are endorsed on the back of the drawing. All papers are permanently sewed into the file wrapper. A tab on the bottom of the wrapper carries the application number so as to facilitate the finding of the file. The first sheet contains various data such as are found on the face of our own file wrappers. The usual papers then follow. In every file there is a copy of the drawing on tracing cloth. There are two copies of the specification and claims in the file, one being for the use of the public when the case is laid open for opposition, and which is subsequently forwarded to the printer. The contents of the file are kept intact by placing a cloth strap provided with a buckle around the same. The important papers in a file such as a rejection, appeal or an allowance, are each indicated by projecting borders of different distinctive colors such as brown, red, green, etc., so that any desired one of them may be found without delay and the approximate status of the case may be determined by mere superficial inspection. The serial designation consists of the initial letter of the surname of the applicant and a serial number thereafter, there being a separate series of numbers for each letter of the alphabet. The clerical work of handling office letters is different from our method. Only one copy of the official letter is written. All are then sent to the mail room. A press copy is made on a special machine for

that purpose. The original is then sent to the applicant and the press copy put in the file. They do not consider necessary the third or press copy, which we make. Letters for any one firm are collected and mailed in one envelope, Clerks have a definite task to perform each day and are supposed to stay until they have finished it. There are no female employees in the office.

The routine of examining applications is not substantially different from our own. Every examiner has in his own room the patents relating to his special art, both domestic and foreign. They do not have the stiff mounted copies that we have. All copies of patents for search purposes, foreign and domestic (the examiner's and the public's) are used in the original flexible condition in which they are received by the office. They do not consider seriously the idea that they will wear out too soon. They accordingly avoid the inconvenience and expenditure of a large amount of money involved in the mounting of soft copies of patents for search purposes as in our practice. The examiner keeps his copies in a paper portfolio.

An important feature of the action of the examiner is that he sets a time in which the applicant must reply. This time, which is entirely within his discretion, usually runs from three weeks to two months. There is no fixed limit of time in which the applicant may respond, as in our law. This has the result of expediting business. The office also expedites its end of the business by acting on all cases, if possible, within eight days to a month after the receipt thereof.

From the action of the examining division rejecting an application or from its action in an opposition proceeding there is only one appeal.

We attended a session of one of the German boards of appeals. It was presided over by a director and consisted of three to five members. When the board consists of five, two of them are legal and three are technical members. In the sitting at which we were present, all of the men were of mature years. There are a number of these boards of appeals which may be in session at the same time. The membership of any one board is drawn from forty odd members and is not of fixed personages, those sitting on any special case being selected on account of their special familiarity with the art to which the case relates. A noticeable feature throughout the organization of the office is that those who decide questions of a technical nature must be specially skilled in that particular art. They were entirely unable to understand how our board of appeals, consisting of only three members, could have such an extensive knowledge of the arts or ne physically able to decide the technical and legal questions of the numerous arts that might come before them. The idea of having appeal boards comprising members drawn from the office at large, and not of fixed personages and those best skilled in the particular art seems to be a good one.

The first matters brought before the board were onesof minor importance, and accordingly only three members sat. The following were some of the matters decided;

1. In an opposition proceeding relating to a wireless telegraph the question of the operativeness of the device was raised by the opposer. The applicant was willing to prove the operativeness of the same by exhibiting it to the office, but objected to the presence of the opposer on the ground that there were other matters, in connection with the same, which he desired to keep secret. The board ruled that the opposer had a right to be present at the exhibition before the office, and that if there were other matters which the applicant did not wish to show in connection with the same, then he should cover them up or build a separate device without these features.

2. A paper which should have been filed within a certain time was not so filed on account of intervening holidays. They readily gave permission to file the paper. Our impression was that they are lenient in the enforcement of time limits.

3. Access to certain matters relating to the extent of an applicant's business, disclosed in some official papers that would ordinarily be accessible to the public were denied to the petitioner who wished a complete transcript of the record, and who was a competitor in the business.

These questions were briefly presented by legal members of the examining corps and decided after a comparatively brief discussion. In none of these cases were parties represented by counsel. In this manner the board expeditiously disposed of over a dozen cases of the above type in less than half an hour.

We next listened to a very important opposition proceeding. The parties were represented by an imposing array of counsel

and technical experts, at least twenty being present. The question involved was principally one of patentability. It related to a process for producing a non splitting electric insulator, in which the indentity of the fibres is obliterated by coating sheets of fibrous material, for example, paper, with a coating and impregnating substance, comprising phenol and formaldehyde and winding it under pressure into a solid roll. The importance of this material in the electrical art can be judged by the fact that it is a competitive article of our well known and famous Bakelite. Briefly, the insulator consisted of some fibrous material, such as paper, which was soaked with Bakelite composition. This impregnated material was then wound under heat and pressure into a roll. The resulting article very much resembled lignum vitae wood. It has the property of being an especially good non-conductor for high tension currents and is also weather proof. The art showed it was old to use Bakelite as a non-conductor; that it was old to use fibrous material saturated with resin and rolled up as in this case for a non-conductor (pertifax process); that it was old to saturate a fibrous material with Bakelite and form the same into blocks by pressing a number of sheets together and to be used for a non-conductor. The discussion took a wide range and at times was quite warm. We were very favorably impressed by the character of the arguments, the power of analysis, and the logical development of the subject by the different parties. The subject was presented and handled in a manner that would do credit to the best of our own attorneys. It was urged and admitted that this article filled a long-felt want in the trade and that it had replaced nearly all

which would sufficiently transform and preserve against moisture the fibrous material, whereas in the prior art the insulating qualities were attributed to the coating material. While admitting that it possessed novelty, the opposers asserted that this process was a natural development of the art, and that the Bakelite people, in seeking uses for their product, would ultimately have attained the same result and the patent office should be liberal in allowing the Bakelite people sufficient time in which to develop the uses of their invention.

We have gone into the recital of this case in considerable detail, particularly to show how far advanced the Germans are in their manner of thought on such questions.

The director conducted the hearing with great ability, permitting the parties and their experts to be fully heard, but nevertheless avoiding needless talk and arguments, and holding the discussion within well-defined bounds. The hearing lasted about two hours. Counsel then handed a written copy of their argumentsto the director and then all withdrew from the chamber. The board now had a free discussion among themselves in which the technical members, by diagrams and examination of the various specimens, elucidated their respective positions. This lasted about fifteen minutes. Thereupon the board was ready to announce its decision. Counsel for the parties were then called in and the decision was orally announced, affirming the opposition and denying the patent. The expeditious manner in which this very important case was handled by the board, without having to read a mass of briefs or to write a

lengthy decision, was in strong contrast to our methods, especially as this was the tribunal of last resort, the decision of the Patent Office being final.

In Germany the courts are never called upon to decide questions of granting or refusing a patent. The board of appeals is provided by law with all the means necessary to reach a decision, make investigations, hear witnesses, experts, etc., and its decision is final.

If the decision is favorable to the applicant, the specification is printed and the letters patent are sealed and a brief of the patent is published in the Imperial Gazette, Patentblatt, and is registered in the Patent Roll.

Of all patent applications filed in Germany about 9 percent are passed to the board of appeals, and of this small percentage only in 22 per cent of the cases, or in less than 2 per cent of the total number of applications, is the decision of the primary examiner's division reversed.

Much thought has been given at various times in our office as to the advisability of briefing our patents as in England and publishing the same in the official gazette, instead of the first five claims, as at present. The German office has gradually drifted away from the laborious work of briefing. Whereas they formerly briefed every patent and published the same with a figure of the drawing in their gazette, they now publish the claims instead of the brief. Of course, on account of the character and limited number of claims in their patents, a better

conception of the invention can always be formed than by our system, where only the first five claims are printed.

In another respect they have also given up briefing. The Deutsches Reportorium, which is a digest of all published scientific literature, was carried on by them from the beginning of their office until a few years ago. It was then taken over by a private concern and published as Fortschritte der Technik. This concern found that the project was not as profitable as they had anticipated and for severalyears was given substantial financial assistance by the Patent Office. Lately the company has gone bankrupt and the publication has been suspended. Overtures made to the office to again take up the work have not been at all successful,as the German officials evidently believe there is more work to it than they care to undertake. A form of briefing which they still perform, though it is not very extensive, but very useful, is published in one of their gazettes. A brief and suggestive tile of the subject-matter of each patent is formulated by the examiner. These titles are then grouped together under the leading word and published annually. Thus anybody interested in any special subject can get approximately all the patents relating to that subject issued during the year to which the report relates by merely looking under the leading word of the group.

The attorneys' or public search hall is about the same size as our own. It is used chiefly for clerical work, considerable being necessary in connection with the publication for opposition. On account of the small filing fee of $5, there is little or no preliminary examination work done by

attorneys in Germany. The search hall is conveniently located near the main entrance. The public copy of patents is kept in a flexible binder. The soft copies of patents are permanently sewed into the binder. On the outside cover is a label showing the class and sub-class to which the patents therein belong. On the first page is the "number list" of the patents that should be in that subclass and binder, a very desirable feature which we do not have. The bundles are filed in pigeon holes as with us. There is a hinged closure for each pigeon hole. On the outside of the closure is the class and subclass number.

The scientific library is very much superior to our own. The Reichstag amply provides for the same by an annual appropriation of $25,000. It is in charge of a skilled librarian and from the character of the topics which we discussed with him, he impressed us as being a man of considerable value to the office, especially in the line of making readily available to the examiners, information they might not otherwise readily secure. He complained to us of the fact that he had been unable to secure from our office, the number lists of patents in all the classes and subclasses. He did not appreciate that the composition of the classes and subclasses in our office was continually changing so rapidly that the publication of a printed "number list" similar to their own would soon become out of date. He also called attention to the fact that certain publications of our office could not be secured gratis, as is the universal rule in England. All foreign patents, our own included, are now bound in the German office in serial order in small volumes of fifty patents each. thus materially reducing the size

and labor of handling the volumes. The facilities and equipment of the library are all that could be desired. The space is ample for years to come. Everything is scrupulously clean and in good order. The book stacks are notopen tothe public. The collection of modern scientific books is very complete and is classified according to the modern library classification system. The collection of scientific journals and periodicals is very extensive and is easily available to the examiners and public. Two copies of each important periodical are ordered, one being provided for the special use of the examiners, who are interested in that art.

We made particular inquiries along the line of those features of the German law that were essentially different from our own.

On the question of opposition proceedings there seems to be a consensus of opinion in favor thereof. Opposition is deemed to be especially valuable as a means of bringing to the attention of the examiner evidences of public use that would otherwise be unavailable to him, or of literature.

The law provides that the patent shall go to the first applicant and this applicant does not have to be an original inventor. Various people whom we interviewed, informed us that they are not satisfied with this provision. The proposed new law corrects this in part by giving further recognition to the rights of the inventor. Their reason for not giving such recognition to the inventor hitherto is in conformity with the whole spirit of their present law, which aims to consider the industries first and the

inventor afterwards. For this reason the validity of a patent can not be attacked after five years from the date of the publication of the grant on the ground of oack of novelty. This provision was passed for the purpose of placing industries in a secure position, and relieving them of the uncertainty that must always exist with respect to a patent whose validity can at any time be attacked. Many patentees therefore never start a suit on their patent until after the termination of the said five-years period.

The courts have no power to declare a patent invalid in an infringement suit, there being a special proceeding instituted in the patent office for that purpose. When an infringement suit is brought, and a close reference is found, the court recognizes it by interpreting the scope of the patent in view of the reference. When, however, a "dead" reference is found and the patent cannot be differentiated therefrom, the court then resorts to a legal fiction, as there is no room for interpretation, and says that no such reference could have existed at the time the patent was granted, and so holds the patent absolutely valid.

In view of the fact that the patent office is the only place where the validity of a patent can be attacked, and that annulment proceedings must take place therein within five years from the date of the patent and in view of the attitude of the courts in their disposition to interpret and hold the patent valid, it is hard to find any fair basis of comparison which would tend to show whether Germany grants a greater or less number of invalid patents than we do. A prominent Berlin attorney told me that he believed that we had grante fewer invalid patents than Germany.

The German system of classification differing from our own, the German examiners of course find references when we are unable to do so, but the same system will also cause them to miss references when we will find them.

Another instance of the doctrine of security to the industries first is found in the principle known as "Gewerbsmassige Gepflogenheit", or the obvious development of the art. While we grant patents for every slight advance in the art, thinking that it encourages and is for the benefit of industry, they refuse to grant them on the ground that it hampers industry. When a patent for a fundamental invention has been granted, they refuse to grant a patent for every slight improvement, under this doctrine, on the ground that if industry is given sufficient time, it will naturally arrive at that point.

The great difficulty of securing patents in Germany has given a great stimulus to the filing of Gebrauchsmuster application,s to the extent that over 600,000 applications have been filed since the inauguration of the law in 1891. The fee is small, 15 marks, with a protection for three years, there is no examination as to novelty, and many people who do not care to spend the money for a patent secure protection on a Gebrauchsmuster (utility model).

The law also provides for annual increasing taxes during the life of the patent. Failure to pay the annual tax causes the patent to lapse. It was stated to us by a

prominent attorney that it was not unusual for corporations to starve out a poor inventor by refusing to buy the invention in the hope that he would thereby fail to pay the tax and they might then come into possession of the same by the termination of the monopoly.

At different times figures have been quoted showing that the German office rejects a much larger percentage of applications than our own office, the conclusion thereby being drawn that the German examiners either make a better search or else are much stricter in their ideas of patentability. In view of the very low filing fee of 20 marks it is cheaper to file an a application than to make a preliminary examination. Many prospective applications that are eliminated in our country by the preliminary examination by attorneys are filed in Germany. It would seem that this is a very material factor when a comparison is drawn between the two offices on the proportion of rejected applications.

On the question of designs, there seems to be a quite uniform opinion that our law is a farce so far at the examination system is applied to it. The German officials point out, for instance, that in Switzerland 500,000 lace designs have been filed in one year; of what value would an examination made by us in such a line amount to, they ask. They also point out that the filing fees are too high. In Germany 50 designs can be protected for one year for one mark. There are 200,000 designs filed in Germany each year. The reason for this low filing fee is that out of the immense amount of material filed, it is only occasionally that a successful design develops.

In the trade-mark division they have a name index for search purposes which seems quite ingenious. The word Romola will be indexed under the vowels, o, o, and a; so that, in searching a word which is spelled differently, but has the same phonetic qualities as Pomola or Monola, reference to the same can easily be found.

Every movable piece of equipment has an inventorynumber stamped or printed thereon.

Records of assignments are kept only under the patent number in books of folio size. There are ten numbers on each page and all transfers are indicated thereunder.

Examiners never resign from the office for the purpose of practicing before the same, as such a practice is held to be ethically bad. The office closes during the summer for six weeks. Office hours are continuous from 9 to 3 o'clock. In order to determine the efficiency of examiners they have established a system which is worthy of consideration. Briefly the system consists in giving a weight to the group of subclasses assigned to an examiner marked on a basis of 1.C, and in accordance with the difficulty of that group. From the total number of actions of an examiner during the month are subtracted those which do not represent any work, but which are merely formal actions. The remaining number is multiplied by the said weight, thereby giving a more equitable basis of comparison between examiners than the number of cases acted upon.

thing toward revising its present classification; in fact, it might be said that they are reasonably well satisfied with the same as it now stands. Applications are assigned and patents are classified in accordance with the particular ulterior use for which an inventor may have designed the invention and set it forth in his specification. Accordingly, if any invention was stated to be of especial use in connection with an automobile, it would be classified in the class where automobiles are found, but if the invention was stated to be of use in a railway car or automobile, then it would ne classified in the class where railway cars are found because that is the parent class. After examination by the expert on railways it is then turned over to the expert on automobiles for further examination. We asked the question, if an inventor should not care to limit the use of his invention to any particular indistrial art, but alleged for it a most general utility, how they would then classify the same, The Examiners stated that that would require him to specify for what particular use he had designed the same, and on that statement, the case would be classified. Thus if an inventor made an improvement in saws which he believed to be of general application, he would be required to state whether it was to be particularly used for meat, wood, stone, metal or for surgical purposes, there being separate classes for each type, and on his statement the case would be classified. It is very easy to classify inventions in this manner in accordance with the mental reservation of the inventor, but it is not so easy to find them later when a different and a heretofore unsuspected ulterior use is

assigned to the same old device. We can not but feel that the German system of classification would be inadequate for our purposes.

The patent office is quartered in a modern fire-proof building which was finished seven years ago. The sanitation and lighting are all that could be desired. There is no thought of overcrowding and there seems to be ample space for years to come. The equipment is substantial and ample but nowhere lavish. Most of the examiners have a room to themselves. The president of the office has living quarters in the building.

Taking the German office as a whole, it is well up to date and can certainly be considered as being in our own class. Different social conditions have caused what seems to us peculiar limitations, in their law; but it is noticeable that they are gradually drifting in our direction. The personnel of the German office is quite different from our own force. In the relationship of individuals there is a distinct smack of militarism, preciseness and subordination to superior officers. No one ever thinks of entering the room of an examiner without first knocking and upon entrance there is much formal bowing and handshaking, and the same procedure takes place on exit.

We were treated with great cordiality and frankness by all the officers of the bureau. They called attention to the fact that our own country was about the only one that had not made an investigation of their office in recent years. A representative of the Swedish patent

office had some time before spent five weeks there investigating their methods and facilities. We felt that the short time we spent in the German patent office did not enable us to get more than a bird's-eye-view.

THE AUSTRIAN PATENT OFFICE.

The Austrian patent law, modeled after that of Germany, is about fifteen years old. Prior thereto the government granted privileges or monopolies, some public and some secret. These were never printed but copies of the same are in the examiners' files. The law contains a provision that no patent shall be granted for that which was formerly covered by a privilege. It is seldom that a reference is found among them.

The personnel and procedure is substantially the same as in the German office. The office consists of 10 examining divisions having each 10 or 12 men. The board of appeals consists of five members and does not comprise fixed personages. The office is divided into two grooups of five divisions each. When appeal is taken from the decision of a division in Group A, the members of the board of appeals are drawn from Group B. When there are two divisions relating to the same general art, as where there are two chemical divisions, one division is placed in each group.There are no directors to assist the Commissioner here as in the German Office.

The method of keeping the references for search purposes is the same as in the German Office, except that they do not have a similar loose copy for public search purposes. All public searching is done in the library through the bound volumes of subclasses, and there is but little of it done apparently.

The Austrian official classification is much the same as is the German, but not so finely subdivided. Nearly every examiner, however, has worked out a private and very detailed classification for his own purposes. Suits for infringement are brought in a court, the members of which are composed of regularly appointed jurists, and having in addition thereto technically trained persons. The latter are usually college professors, doctors of engineering and other strictly professional men, but they are never men from the industries. In Austria a patent can be declared invalid at any time, whereas in Germany it can not be declared invalid after five years from the date of publication of the grant. Austria has the same provision of law as Germany to the effect that when a number of employees contribute ideas to an invention, the latter shall nevertheless belong to the employer. Just why they are unable to accept the doctrine of joint invention in the above case is hard to see.

The office is six months behind in its work and there is much complaint on that account. Inasmuch as the law provides that a patent shall not be granted at the time of application, they do not act on any application until three

months after the filing date, such time being allowed for the receipt of foreign patents and publications prior to that date.

Their method of keeping assignment records was the best we have found. In bound volumes, folio size, a whole page is reserved for each patent. On this page are recorded all transfers of the patent. In addition thereto there is an alphabetical card index of all assignees. Each card shows the number of the patent involved. There were over 100 cards under the head of United Shoe Machinery Company alone.

The working clause is in effect in Austria, but is seldom invoked and usually only against very important patents. We were informed that the Mergenthaler patent was revoked for non-working. The question of reciprocal rights with our country on that question does not concern them greatly because there are few Austrian applicants for U.S. patents, compared with American applicants for Austrian patents. Fixing the price at which a patented article shall be sold is not forbidden. The only price-fixing that is prohibited by law is where there is an agreement to raise the price.

There is now before the Austrian parliament a new law covering designs, whether they are artistic, as with us, or utilitarian, as with the German Gebrauchsmuster. The law does not attempt to distinguish between the two and protection is to be had wholly by registration, as in Germany.

The facilities and equipment of the office are wretched. The office is

scattered through six rented buildings all of which are poorly lighted and in an unsanitary condition. The office furniture is also meagre and poor.

The library is quite extensive, but is also poorly housed. They do not have the modern library classification, although the one they have is quite efficient. All foreign patents are bound in volumes of 100 each.

The personnel impressed us as being of a high order. We surmise that their handling of a case would be as intelligent and thorough as that of the German or our own office. There is, however, a great difference in the general atmosphere of the office. The military preciseness and bearing of officials so conspicuous in the German office is nowhere apparent here. They have the same free and easy manners as one finds in our own office.

THE HUNGARIAN PATENT OFFICE

The Hungarian Patent Office, at Budapest, is fairly comfortably housed in a substantial stone building of four stories and basement, the approaches to the various rooms leading from galleries surrounding a central court.

Under the Hungarian law of July 7, 1895, now in force, any new invention capable of being utilized industrially can be patented. A patent will not be granted, however, for an invention.

1. The working of which is contrary to law, an ordinance or to public morals.

2. Which relates to arms for war purposes, explosives, ammunition, fortifications or ships of war necessary for increasing the belligerent power of the army or navy, provided the Minister of Commerce enters an opposition against the granting of such patent within two months of the proposed date of publication.

(Note) Paragraph 2 will probably be eliminated in the proposed new law, for its effect is to prevent the granting of valuable patents).

3. For scientific theorems or more principles.

4. For articles serving for human and animal nourishment, for medicines and articles produced by chemical processes, although the process itself employed in making such articles may be patented.

An invention is now regarded as new if at the time of filing the application:

1. It has been so known by printed publications or other reproductions, that it can be used by persons skilled in the art.
2. It has been made so known by public working or by exhibition that its employment by persons skilled in the art has been rendered possible, excepting that an exhibitor at an official exhibition is given an allowance of six months if he states that he intends to file an

application for a patent on the article exhibited.

3. It has formed the subject-matter of a prior patent.

The invention is regarded as novel, notwithstanding prior publication or working, if a term of 100 years has elapsed between the time of its last publication or working, and the date of application.

Whether an official publication published in a foreign State deprives the patent of novelty is determined by treaties made with such State.

Applications, as soon as they are received, are given a time seal, indicating the exact moment of their receipt, and also a serial number. Every application must contain:

1. The name, profession, and residence of the applicant and, if he resides abroad, also the name and residence of his representative residing in Hungary.

2. The title of the invention sought to be patented by its general designation.

3. The declaration that the applicant is the inventor of the matter sought to be patented, or that he is the successor (ayant cause) of the inventor, and, in the latter case, the application must contain the name, profession, and residence of the inventor, and also designate the document by which the applicant supports his rights as applicant.

The application must be accompanied by a receipt of the Public Treasury indicating that the application fee,

20 crowns, of $4., has been paid, and a duly authorized power of attorney, if the application is filed by a representative of the applicant.

The description of the invention must be in duplicate and be placed in a sealed envelope on which the title of the invention and the name and residence of the applicant are noted. If the applicant be the successor of the inventor, the document determining the succession, assignment or transfer must accompany the application.

Drawings must be in duplicate, the main drawing on white and smooth design paper, and the copy on tracing cloth, and at least the former be executed in black India ink.

The specification or description must comply with the following requisites:

1. It must enable persons skilled in the art to make the invention on the basis of such description without any amplification thereof; in particular, the description must not contain any misleading statements or ambiguities nor must it keep secret anything relating to the means, mode of working or the particular operations necessary for successfully carrying the invention into practice, nor must it name means or devices which are more expensive or have not the same effect.

2. It must enumerate, in one or more claiming clauses, what is considered as new and what the applicant wishes to have protected by patent. If there be two or more claiming clauses and the substance of the invention does not consist in the matters separately pointed out in the several

claiming clauses but in the entirety of the matters pointed out in all of the claims or in groups of such claims, this circumstance must be particularly stated. Defects of the claims can not be remedied by other parts of the specification.

3. It must be accompanied by such drawings as are necessary for its comprehension and, if required, by models or samples.

4. It must bear the signature of the applicant or his representative.

Up to the time of publishing the application, applicant may make alterations or amendments of the description and claims. The effect of such changes upon the priority of the application, however, is determined by the office.

The examining staff comprises sisteen "Patent Judges" of whom twelve are technical examiners or judges and four are jurists without special technical training. Together these persons constitute two "Main Examining Divisions". ("Anmelde Abteilungs-Divisionen"). No examination of an application as to novelty is made, however, prior to its publication and only then when the granting of the patent is opposed, and only with regard to the supposedly anticipatory patents, literature or cases of prior use cited by the opposer.

Each application is assigned according to the official class to which it belongs, by the Assistant Commissioner to an examiner expert in such class, who conducts the correspondence and finally reports to a board (Anmelde Abteilung")

consisting of three judges, two technical examiners, and one jurist. These decide whether or no the formalities required by law have been complied with and if the application is published ("ausgelegt" or "aufgeboten"), and exposed to public examination for a period of two months. In case of an unfavorable decision, appeal lies to a board of five judges, known as the judicial board ("Richterliche Instanz"), composed of members different from those sitting in the Anmelde Abteilung, and now comprising three jurists and two technical examiners. (Note: the constitution of this board will probably be changed by the new law to three technical members, and two jurists), whose decision is final.

As stated above, if the Anmelde Abteilung, or in case of an appeal, the judicial noard, considers the application to be in due order and finds that a patent may be granted, it orders the application to be published and thus allows opposition proceedings, if any, to be instituted.

On request of the applicant, however, the publication may be postponed for a period not exceeding six months from the date of the decision to publish; a request for a delay of not exceeding three months, must be granted by the office. From the day of publication, the specification, drawings, samples, or models are open to public inspection.

Within two months of the day of publication, opposition may be entered against the granting of the patent requested. The opposition papers must be filed in the Patent Office in duplicate and contain all the reasons assigned, but based only on the following propositions:

1. That the invention is not patentable in the meaning of the law as above defined.

2. That the description does not fulfill the requirements pointed out above as to the specification, and,

3. That the invention does not lawfully belong to the applicant.

In the cases falling under heads 1 and 2, opposition may be entered by any person, but in case of 3 only by the party injured or by his successor.

The opponent is not bound at present to pay applicant's costs, but this will probably be changed by law, so as to force the opposer to pay if his objections are found to be untenable.

The application fee for a patent or patent of addition (improvement), is 20 crowns (about $4.), and the fee for a permissible alteration of the specification is 10 crowns, or $2. During the possible life of a patent (fifteen years), taxes or annuities increasing in amount from 40 crowns for the first year to 500 crowns for the fifteenth year have to be paid, according to the desired duration of the protection. On a patent running for the full term 2820 crowns, or about $564, must be paid. The annuities are due yearly in advance, and may be paid yearly or for several years or for the whole term at once. If the first year's tax is not paid within sixty-one days of the day of publication, the application is considered as being withdrawn. Additional fees are required for delayed payments. Inventors who furnish certificates of poverty are granted respites for certain fees or taxes. Besides

the above taxes and fees, a fee of 20 crowns is required in the following cases:

1. On filing an appeal (refunded if successful).

2. On bringing an action for revocation or annulment of a patent.

3. On filing a request that the office determine the scope of an existing patent, and,

4. On registering an assignment of a patent. Special stamps must be affixed to most papers filed, but are not enacted in the case of opposition papers, so as to stimulate such action, for the office does not examine an application on its merits before opposition is brought.

Suits for annulment on the ground that the patent is invalid or for revocation (i.e., "Nichtigkeits-erklärung", or "Entziehung eines Patentes"), on the ground of non-working for three years, begin in the officebefore the judicial board (Richterliche Instanz"). Suite for revocation are very uncommon, however, only two cases having been decided in nineteen years. Appeal lies in both instances to the "Patent Senat", consisting of a juristically trained presiding officer, (Prasident) appointed outside of the office, together with three noted University professors or leading experts, and three supreme court judges.

Infringement suits ("Patent Verletsungen") are brought in a "Strafgericht" (Criminal Court), and are appealable to a "Landesgericht" (Circuit Court)

下 [illegible]

and from thence to the "Reichsgericht" (Supreme Court).

A very interesting procedure is that by which a manufacturer or other person, who fears that he may be infringing a patent, may file a petition, or request, accompanied by a fee of 20 crowns, with the Patent Office, asking that the latter determine the scope of the patent that he may be infringing, so as to avoid annoyance by infringement suits.

The office then looks into the question but determines only the negative position.

If the office holds that the petitioning manufacturer or other person does not infringe the patent named, the owner of the latter is barred from bringing suit against him for infringement of such patent.

Under the proposed new law, re articles made by a patented chemical process, if the article is apparently infringed, the burden of proof rests upon the apparent infringer to proce that his article was made by a different chemical process.

About 6,000 patents are granted in Hungary yearly, printed in the Hungarian language, the total number issued to date being about 65,000.. Our office receives one copy of these patents, which are bound in volumes of 100 each, and are kept in our library.

September 24, 1914.

Paper No. 6.

6

SOME CONSIDERATION OF THE TERM COMBINATION.

By M. Baldwin, Prim Exr
Div 2. Oct 1, 1914.

The purpose of this paper is to present an inquiry into the use of the term Combination as it is applied in Patent Law to different agroupments or assemblages of parts or elements; to endeavor some consideration of the different agroupments to which the term Combination is applied, and to suggest certain applications of the term to each.

For any consideration of Combination, a definition of that which is meant by the term becomes of first importance, and it is in the search for definitions that the differences in opinions relative to the term become most apparent.

On investigation, definitions for Combination are found to vary from that most limited and specific definition given by the Supreme Court decision in Pickering vs. McCullough to that definition which finds some acceptance and vogue in advanced practice and in which combination is set forth as "An inventive assemblage of parts." This definition, however, is better framed to include the many different adjudicated cases of combination than to afford aid for its specific application, as it supplies no determining factors and is much too broad to be of any practical assistance.

Turning, then, as we must, to the court decisions for definitions for Combination we find in decisions of the

Supreme Court in the cases of Hailes vs. Van Wormer, Rickendorfer vs. Faber, and Pickering vs. McCullough the following statements of that which is combination:

In Hailes vs. Van Wormer, Mr. Justice Strong said:

> All the devices of which the alleged combination is made is confessedly old. No claim is made for any one of them singly as an independent invention. It must be conceded that a new combination, if it produces new and useful results, is patentable, though all the constituents of the combination were well known and in common use before the combination was made. But the results must be a product of the combination, and not a mere aggregate of several results each the complete product of one of the combined elements. Combined results are not necessarily a novel result, nor are they an old result obtained in a new and improved manner. Merely bringing old devices into juxtaposition, and then allowing each to work out its own effect without the production of something novel is not invention.

In Rickendorfer vs. Faber, Mr. Justice Hunt announced:

> The combination to be patentable must produce a different force or effect or result in the combined forces or processes from that given by their separate parts. There must be a new result produced by their union; if not so, it is only an aggregation of separate elements.

In Pickering vs. McCullough combination is given its most specific definition in the statement:

> In a patentable combination of old elements all the constituents must so enter into it as that each qualifies every other.
>
> To draw an illustration from another branch of the law, they must be joint tenants of the domain of the invention, seized each of every part, per my et per tout, and not mere tenants in common, with separate interests and estates.
>
> The combination must form either a new machine of a distinct character and function, or produce a result due to the koint and cooperating action of all the elements, and which is not the mere adding together of separate contributions. Otherwise it is only a mechanical juxtaposition, and not a vital union.

This last definition in Pickering vs. McCullough was found, however, entirely too limited and specific to permit of general application, and the criticism taken from Walker on Patents is given:

> "If, instead of an extract, the whole opinion be read, in connection with the authorities which are cited in it, it may be readily perceived that the substance of the doctrine intended to be affirmed is that a combination to be patentable must produce a new and useful result as the product of combination, and not a mere aggregate of several results, each the complete result of one of the combined elements."

> And that: "If it were essential to a valid patent for any combination whatever that the mode of operation of every element included in the combination should be changed by each of the others, it would have been impossible to sustain several combination patents which have in fact been upheld, as, indeed, it would be difficult to conceive of any mechanical combination which would be both possible and patentable".

As a summation of the accepted definitions of that which comprises a patentable combination, the following is quoted from paragraph 33 of Walker:

> "To make a valid claim for a combination, it is necessary that the several elementary parts of the combination should act simultaneously. If those elementary parts are so arranged that the successive action of each contributes to produce some one practical result, which result, when attained, is the product of the simultaneous or successive action of all the elementary parts, viewed as one entire whole, a valid claim for thus combining those elementary parts may be made".

In all of these definitions we find Combination determined and defined by result, and no generally employed definition of Combination can be discovered in which the production of a so-called single and unitary result is not required as a determining factor.

With Combination thus defined by result, the fact is most illuminative that on any attempt to illustrate by a

concrete application, an instance is selected presenting the idea of a chemical compound, taken either as a composition of matter or as a process or method for the production for the compound. Generally such an instance is selected as the production of vulcanized rubber by the Goodyear process. And here, considered either as a compound or as a method of process, we have an ideal and perfect illustration which will answer even the most specific limitations of the full definition of Combination as stated in Pickering vs. McCullough, as the parts or elements, raw rubber and sulphur, enter into the combination so that each is seized as joint tenants of the entire domain of the invention; and the combination is easily found to produce a single, new and useful result, the vulcanized rubber.

But when we attempt to apply the definition of Combination to a machine, the application halts at result. What is the result of a machine? Is it the function or operation of the machine, or is it its product? And what is the difference, if any, between the function or operation of a unitary machine and that which we term its inherent law of action by which it is defined and distinguished as a unitary machine?

In Webster Loom Co. vs. Higgins the result is defined as ~~a~~ the greatly increased effectiveness of the machine.

On attempting analysis, we find the words "increased effectiveness" to be distinctly relative, implying a reference to another construction and a change from

the same, the increased effectiveness being a direct result of the change, but not the result of the cooperation or interaction of the parts or elements of the machine. The increased effectiveness may aid in the determination of invention, but can not be easily applied as a test as to whether or not the parts cooperate. If so applied as a test for cooperation to the claims of the Richard's patent, No. 308,905, the test of increased effectiveness could well be answered affirmatively, yet such claims in Richards vs. Chase Elevator Co., 71 O.G. 1456, a Supreme Court decision, were held to be for a pure aggregation.

A yet greater difficulty in the determination of Combination by result is encountered in the application of the term to a second class of machines, comprising associations and assemblages of devices or elements which do not possess the inherent law of action characterizing a unitary machine, and of which an illustration is afforded in the case of the Burdett-Rowntree Mfg. Co. vs. Standard Plunger Elevator Co., cited in Krell Auto Grand Piano Co. vs. Story and Clark, 206 O.G. 316.

In this case the assemblage comprised an elevator car, an electric motor in the basement of the building, call bells, floor bells, and door signals, and in reference to which the court stated;

> By the grouping and arrangement that are said to be merely aggregation, it seems plain that an intimately related whole has in fact been evolved, in which each part has been made more effective to accomplish the common object, and

in which the increased efficiency is due to the new relation of each part to the others. The total result is certainly greatly improved in the several particulars already referred to; and, while it is not a tangible product that has been improved, the new method of operation produces a clearly perceptible advance in the art. Elevators with one point control arrangement of signals and motor are operated more rapidly, more easily, more safely, and more efficiently, and greatly improved operation seems to be a new and beneficial result produced by a new combination and arrangement of known elements.

Associations, assemblages, or agroupments of devices of the above class do not possess the law of action found in a unitary machine, but yet are termed machines that they may be held within the limits of the statutory classes for which patents may be granted; and to permit the application of the term Combination to this class of devices, the intervention of the operator has been brought in where necessary to secure sooperation of the elements to produce the result which has been termed the increased efficiency or the greatly improved operation of the assemblage.

In view of the difficulties thus encountered in the application of the term Combination defined by result, it may be of interest to inquire whether there may not exist other paths to the allowance of claims for Combination than as defined in the production of a single and unitary result.

May we not consider the restriction of the term Cobination by result only to claims for processes and for compositions

of matter; the use of the term Combination by Law of Action for claims for unitary machines, which operate in proper relation and sequence, and the use of the term Combination by Space Relation for assemblages and associations of devices comprising the so-called machines of the second class, if thereby any clarification of thought as to the application of the term combination is to be obtained?

Clearly the more definite the rule, the more certain is the determination of the results of its application in any particular case. Hence, if by such definitions of Combination a more certain test is enabled in each particular application, certainly some warrant is to be found for the suggestion, and it only remains to be determined by actual test whether the application of the term Combination as above defined is of value.

In the practical application of such suggested combinations, claims for combination by result would be considered, as now,by the result attained.

Claims for unitary machines or for pluralities of parts of the same, comprising Combinations by Law of Action,would be considered relative to the questions of novelty, utility and invention in the light of the law of action of the parts, and, if no new law of action should be developed, the fact would be evident that the parts or elements changed were but the mechanical equivalents of like parts in the anticipatory mechanism.

In claims for assemblages comprising Combinations by Space Relation, the novelty, utility and invention should be found in the change in the configuration or relative agruupment of the parts or ele-

ments to permit of their association and assemblage in the relation claimed.

A particular illustration of that relation intended by the phrase Combination by Space Relation is afforded by devices of that class or order comprehended by the term Compound Tools. Devices of this class present associations of different tools or implements in which great ingenuity involving invention is displayed in making changes or modifications of one or both of the devices or implements to permit them to be brought together, yet the changes are entirely in form and are without any change in function or result.

The application of the test of Combination by result to compound tool construction is found in Rickendorfer vs. Faber, the well-known case of the application of a piece of rubber serving as an eraser to one end of a lead pencil; and the decision naturally found no Combination for the production of a result.

If viewed as a Combination by Space Relationship, the inquiry would have been directed to the determination of the degree of change in shape or adjustment of the parts to permit them to be associated, and the interaction of the two devices in cooperation to a novel and unitary result could have been disregarded.

As a clear concept of the conditions for the application of the term Combination is so essential in the practice of this office for the proper determination of patentability and for the analysis of claims, any attempt to throw additional light on the subject may be of value. This paper is therefore submitted in the hope that at least the matter may be opened to discussion and the expression of other thoughts thereon.

Paper No. 7.

7

APPLICATION AND SCOPE OF ORDER NO. 2010.

By Chas. F. Haden, First Asst. Exam., Div 2. Oct 1, 1914.

When an application is filed which, in the opinion of the Examiner is a division of, a continuation of, or a substitution for a previously filed application, but which contains no reference to such prior application, the Examiner will make a proper reference to the prior application in the record and an appropriate entry upon the face of the file wrapper.

This is the substance of Order No. 2010, October 18, 1912, as modified by Order No. 2071, September 19, 1913.

In Order 2071 divisional applications are not mentioned specifically, but as they are merely a species of continuing applications the scope of the order is the same as Order 2010.

It is not difficult to recognize a divisional application. The rules of practice disclose clearly the nature of a divisional application, but they do not define substitute applications, and continuing applications. Such information must be drawn from the decisions.

These questions may present themselves on any Examiner's desk, any day, and each one should be prepared to take the proper action, and make the proper endorsement on the file.

The requirement is so just, it is surprising to realize it is of such recent origin.

It is the simplest way by which the complete records of the prosecution

of such applications can be lawfully thrown open to the public after patents issue thereon.

However, from the organization of the Patent Office until June, 1903, it was possible for an applicant to prosecute an application until it was ready for issue or allowed, make and file a clean copy of the contents of the patentable file, then abandon the parent application and receive a patent from this office which, as far as the records open to the public showed, was passed to issue without a criticism, or the citation of a reference.

The great injustice to the public of such a proceeding was generally recognized by the examining corps, commented upon frequently and greatly deplored, but there was no authority in the rules or in the decisions for preventing such an abuse.

These tactics were employed so frequently that, instead of being the exception, they became the settled practice of some attorneys and were resorted to every time they had a client who was willing to pay another filing fee, and the expense of preparing the clean application.

The circumstances which resulted in establishing the present practice arose in this manner:

Lewis and Unger filed an application, claiming the invention of a process for cutting steel plates. Some of the claims of that application were finally rejected and, on appeal to the Board of Examiners-in-Chief, the final rejection was sustained. They then filed two new applications disclosing and claiming the

same invention. Some of the claims in these two applications were finally rejected, but, upon appeal to the Board, the rejection was overruled and the claims were allowed. The Examiners-in-Chief suggested that all the claims be incorporated into a single application. Lewis and Unger adopted the Board's suggestion. All the claims were placed in a single case, and that case was passed to issue. Thereupon, after notice of allowance the objectionable practice of filing a new and clean record was resorted to, and a new application was filed which was a literal copy of the allowed case, but made no reference to the prior applications, and, of course, eliminated all amendments, rejections, appeals, consolidations, etc., and, on the day after that application was filed, a formal abandonment of the allowed application reached the office. It was as follows:

> "We hereby abandon the prosecution of the above entitled application, without abandoning the invention described and claimed therein, as we are, today, forwarding to the Patent Office, for filing, another application covering substantially the same subject-matter".

It is apparent that, from the filing of the first or parent application to the issuing of the patent on the fourth application there would have been a continuous unbroken line of live applications, describing and claiming the same invention, securing to the patentees all the benefits which accrued from the filing date of the parent application, which should be open to public inspection, but all of which would have been concealed excepting the last one - the clean copy of the previously allowed application - if the old and vicious prac-

tice of getting a clean record, as it was called, had not been stopped.

This was such an extreme example of withholding information most valuable and necessary and to which, in consideration for the grant of the patent, ever one interested or concerned was entitled, that it was submitted to the Commissioner of Patents by the Primary Examiner for instructions as to the action which should be taken. The question being: Shall the application be allowed without some reference to prior abandoned applications for which it was substituted?

June 24, 1913, Commissioner Allen handed down the decision which is the foundation of the present practice.

Briefly stated the reasons and conclusions in Ex parte Lewis and Unger, C.D., 1903-303 are:

The claims were allowed by the Board of Examiners-in-Chief. There is nothing in the new application to show that fact. If the case be passed to issue without a reference to the prior cases it would appear that it was allowed without the citation of a single reference. The date of filing printed in the patent would be misleading because the last application was a continuation of the prior applications. The language of the letter of abandonment is such that it is clear applicants intend to retain all the benefits resulting from the prior applications but they wish to conceal those applications from the public. This would mislead and deceive the public as to the record date to which the patentees were entitled. The office can not knowingly permit the patents issued to contain a false suggestion of fact which may mislead the public. Neither should the

office conceal from the public the proceedings which lead to the grant of a patent. All such proceedings should be open to the public. It is held that the present application should not be allowed without a reference to the prior applications and that there should be endorsed upon the file wrapper a statement that it is a continuation of those applications.

In January, 1905, Ex parte Taylor, Jr., C.D., 1905-45, was decided.

This was a case where an application was allowed and forfeited and a new application was filed for the same thing.

It was held that notice of the first case should be included in the second.

In April, 1905, Ex parte Britt, C.D., 1905-156, was decided.

In this case, an application was prosecuted to allowance, but was allowed to become abandoned, and thereafter a new application was filed for the same invention, and containing the allowed claims. It was held that there should be a reference in the new application to the abandoned application.

Give careful consideration to this case. The first application was abandoned - totally dead, yet a reference to it was required in a subsequently filed application by the same applicant for the same invention.

This ruling was probably based on the holding of the Supreme Court of the United States that if a party choose to

withdraw his application for a patent, and file a new application for the same subject-matter, the two applications are to be considered parts of the same transaction. Godfrey vs. Eames, 1 Wall., 317.

These three decisions established the practice upon which Order No. 2010 was based.

To correctly apply the order, we must be able to tell when applications are divisions of, continuations of, or substitutes for previously filed applications, because when an application is a continuation of or a substitute for an earlier application the record made in the parent application should be as much open to the inspection of the public as the record in the patented file. In re Doman, C.D., 1905-101.

Taking up the question of divisional applications, which are a species of continuous applications:

It is fundamental that a proper divisional application does and can contain only matter carved out of the original case. Ex parte Henry, C.D., 1893-88, 64 O.G., 299; Ex parte Kruse, C.D., 1910-119.

The addition of unessential details, such as braces for a frame, does not affect the status of an application as far as the question of its being properly divisional is concerned. Phelps vs. Hardy vs. Gatman & Stern, 77 O.G., 631, C.D., 1896, 70.

Nor does a mere enlargement or extension of a certain feature, whereby no additional function or capability is given

the apparatus, prevent a case from being a divisional application. Ex parte Kayser, C.D., 1898-65; 83 O.G., 915.

But where an application contains matter divided out of a prior application and also contains other matter, it is not a divisional application. Ex parte Hicks, C.D., 1903, 148; 104 O.G., 309.

In fact where there is any departure from the disclosure of the alleged parent case, the application can not be referred to as a division thereof. Ex parte Kruse, C.D., 1910-119; 157 O.G., 208.

Turning now to continuing applications:

For an application to be a continuation of another such as to warrant giving to the second the benefit of the first filing date, the proceedings relating to the two must be merged into a single proceeding. There must be a connection between the two which is warranted by law. Sarfert vs. Meyer, C.D., 1902-30.

The rule of continuity rests broadly upon the subject-matter of the invention and not upon the specific embodiment. Latterhead vs. Hanson, C.D., 1904-646.

Hence an application may be a continuation of an older application when the two have common subject-matter even though the later application contains matter which is a departure from that shown and described in the original application. Ex parte Kruse, C.D., 1910-119; Lorimer

et al. vs. Keith et al., 205 O.G., 1555; Godfrey vs. Eames, 1 Wall., 317; Cain vs. Park, C.D., 1899-278; Latterhead vs. Hanson, C.D., 1904-646; Lotz vs. Kenney, C.D., 1908-467; Von Recklinghausen vs. Dempster, C.D., 1910-365; Field vs. Colman, C.D., 1913-450; *Ex parte* Luten, C.D., 1913-165.

An application filed to take the place of another application subsequently abandoned is a continuation of the parent application. Lewis and Unger, C.D., 1903-303. *In re* Doman, C.D., 1905-101; *In re* Vacuum Specialty Co., C.D., 1909-88.

So is a new application filed, by an executor, during the life of the patent application. *Ex parte* Smith, C.D., 1888-24.

But an application disclosing and claiming subject-matter disclosed in a patent granted prior to the filing of such application can not be considered as a continuance of the prior application, since after the application has eventuated into a patent there is nothing left pending before the Patent Office upon which it could act or to which the later application could attach. Wainwright vs. Parker, C.D., 1909-379; *In re* Spitteler and Krische, C.D., 1908-374.

Neither can a second application be a continuation of a first or earlier application by the same inventor unless it contains the same invention. Green vs. Hall vs. Siemens vs. Field, C.D., 1889-110; *Ex parte* Luten, C.D., 1913-165; Field vs. Colman, C.D., 1913-450.

Likewise applications by joint applicants can not be continuations of applications filed by sole applicants, and

vice versa; because the applicants in the two cases are different entities. Arnold vs. Vaughn, and Cabot vs. Arnold and Fisher, C.D., 1904-78.

Furthermore when an application is abandoned for failure to prosecute or otherwise, a second application thereafter for the same subject-matter is not a continuing application. Hien vs. Pungs, C.D., 1894-92, Carty vs. Kellogg, C.D., 1895, 83; Ex parte Britt, C.D., 1905-156.

The decision of the Supreme Court of the United States in Smith vs. The Goodyear Dental Vulcanite Co., C.D., 1877-171 does not establish a doctrine contrary to the last statement.

In that case Smith filed an application in 1855, prosecuted it until some time in 1856, and then did nothing until 1864, eight years afterwards, when he filed a new application for the same invention, and the court held the second application was a continuation of the first. The explanation is:

Abandonment for failure to prosecute was not enacted as a part of the patent law until 1870. Consolidated Patent Act, of 1870, sec. 32, 16 Statutes at Large, p. 198; R.S., 4894.

In the order under consideration three species of applications are named - divisional, continuous, and substitute.

It is believed that the attention already given to the first two is quite sufficient to enable one to establish their identity easily and certainly. However, the foregoing statements based on various decisions bearing on the subjects are sufficient authority for the following definitions for the terms divisional applica-

tion and continuous application.

A divisional application is an application carved out of a prior application, which does not vary materially from the disclosure in the patent application. It must be filed by the person who filed the parent application or by his legal representative while the parent application is pending.

A continuous application is an application filed subsequently to another application, while the prior application is pending, disclosing all or a part of the subject-matter of the prior application and containing a claim to subject-matter common to both applications, both applications being filed by the same inventor or his legal representative. Putting it in a simpler way a continuous application is one which is entitled to the filing date of a prior application for a constructive reduction to practice.

But when the subject of substitute applications is taken up for consideration no line of decisions giving examples and definitions is found.

Divisional applications and continuing applications have been called substitute applications. In fact the term appears to be loosely applied to any application which takes the place of a prior application. Ex parte Lewis and Unger, C.D., 1903-303; Ex parte Taylor, Jr., C.D., 1905-45; In re Doman, C.D., 1905-101.

As far as now appears, all cases

in which endorsements on the file wrappers are necessary to carry out the spirit and the letter of Order 2010 can be classified as divisional applications or continuing applications excepting the single species represented by Ex parte Britt - cases in which a period of abandonment intervenes between the filing of the first application, and the filing of the second application. During such period of abandonment no live case is before the office.

Doubtless the Commissioner had in mind this type of cases when he introduced the word "substitute".

Therefore, all applications affected by Order No. 2010, which are neither divisions applications nor continuing applications, should be termed substitute applications in the endorsement upon the file wrapper.

This being the case, the conclusion necessarily follows that Order No. 2010 is comprehensive enough to cover every instance where the public is entitled to examine the complete record of the proceedings in the Patent Office leading to the issuing of a patent when such record is not all in the patended file; and that one or another of the three terms - divisional, continuous, and substitute - will clearly designate every case in which the public has such a right.

8

Paper No. 8.

MECHANICAL METHODS.

By. J.J. Fosselman, 3rd asst Exr Div 3, Oct. 8, 1914

The term "art" as used in the patent law is intended to include "methods" and "modes" of operation as well as "processes".

Mr. Justice Grier, in delivering the opinion of the court in Corning vs. Burden (15 How., 252), said:

> "A process eo nomine, is not made the subject of a patent in our act of Congress. It is included under the general term 'useful art'. An art may require one or more processes or machines in order to produce a certain result or manufacture. . . . But where the result or effect is produced by chemical action, by the operation or application of some element or power of nature, or of one substance to another, such modes, methods, or operations, are called processes. A new process is usually the result of discovery; a machine of invention."

As stated in Cochrane vs. Deener, C.D., 1877, 242; 110 O.G., 687; 97 U.S., 780:

> "A process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing. . . . The process requires substances and in a certain order; but the tools to be used in doing this, may be of secondary consequence"

The terms "process", "method" and "mode" are, to a certain extent, used interchangeably in the domain of invention and discovery; although the best usage would seem to indicate that the term "process should be used when it is intended to refer t an operation including some chemical or othe similar elemental action or the action of an agency of nature.

The terms "method" and "mode" are employed more accurately where the operation intended to be defined, is mechanical and the various elements and parts suffer no change in composition.

The Supreme Court held in Risdon Iron and Locomotive Works vs. Medart, et al, C.D., 1895, 330:

> "It may be said in general that processes of manufacture which involve chemical or other similar elemental action are patentable, though mechanism may be necessary in the application or carrying out of such process, while those which consist solely in the operation of a machine are not".

In this case after discussing the cases of: Mowry vs. Whitney, 1 O.G., 499, 14 Wall., 620; Cochrane vs. Deener, C.D., 1877, 242; Tilghman vs. Proctor, C.D., 1881, 163; O'Reilly vs. Morse, 15 How., 62; New Process Fermentation Co., vs. Maus, C.D., 1887, 402; Bell Telephone case, C.D., 1888, 321, and American Bell Telephone Co., vs. Dolbear, C.D., 1883, 160, the court said:

> "It will be observed that, in all these cases, the process was either a chemical one, or consisted

> in the use of one of the agencies of nature for a practical purpose.
>
> It is eqully clear, however, that a valid patent can not be obtained for a process which involves nothing more than the operation of a piece of mechanism, or, in other words, for the function of a machine."

It may be remarked that this discussion of the Supreme Court followed a number of decisions which it had rendered in dealing with mechanical methods and processes as follows:

In Downton vs. The Yeager Milling Co., 1883, 434, 25 O.G., 697, it held a mechanical process of "manufacturing middlings-flour" unpatentable over references, bu it does not appear to have considered it as relating otherwise to an unpatentable process.

In Eames vs. Andrews et al., C.D., 1887, 378, it held a "process of constructing wells" to be patentable and the patent to have been infringed. In Hoff et al. vs. The Iron Clad Manufacturing Co., C.D., 1891, 332; 55 O.G., 139, it was decided that clain 1 for a "method of forming the body of a coal-hod or other similar vessel", and claim 2 for an "article of manufacture", made by such method, had not been infringed, and while some doubt was expressed as to patentability over references, nothing was said as to the unpatentability over references, nothing was said as to the unpatentability of a mechanical method.

In Hoyt vs. Horne, C.D., 1892, 435

the following claim for a purely mechanical method was held to be valid and infringed:

> "The improvement in beating rags to pulp in a rag engine having a beater-roll and bed-plate knives, consisting in circulating the fibrous material and liquid in vertical planes, drawing the same between the knives at the bottom of the vat, carrying it around, and over the roll and delivering it into the upper section of the vat, substantially as described".

In Weatherhead et al. vs. Coupe et al., C.D., 1893, 203, this quoted claim was held to be for the function of a machine, but it was not intimated in the opinion that mechanical methods were unpatentable:

> "The improvement in the method of stretching hides, which consists in dragging the hide over a stretcher, and also over a friction table or beam, by means of a revolving roller, to which the hide is secured, as described, whereby as the hide is passed over the table or beam, the thicker portions of the hide are detained or made to lag by pressure applied to such thicker portions, to increase at such points the friction between the hide and the table, substantially as specified".

Risdon vs. Medart was followed in a few years by Westinghouse vs. Boyden, C.D.,

1898, 444, 170 U.S., 537, in which Mr. Justice Brown delivered the opinion of the court, saying among other things:

> "Risdon Locomotive Works vs. Medart and other cases assume, although they do not expressly decide, that a process to be patentable must involve a chemical or other similar elemental action, and it may be still regarded as an open question whether the patentability of processes extends beyond this class of inventions. Where a process is simply the function or operative effect of a machine, Corning vs. Burden, Risdon Locomotive Works vs Medart, and other cases are conclusive against its patentability; but where i is one which though ordinarily and mos successfully performed by machinery, may also be performed by simple manipulation - such, for instance, as the folding of a paper in a peculiar way for the manufacture of paper bags or a new method of weaving a hammock - ther are cases to the effect that such a process is patentable, though none of the powers of nature be invoked to aid in producing the result (Eastern Paper Bag Co. vs. Standard Paper Bag Co., C. 1887, 537, 41 O.G., 231, 30 F.R., 63; Union Paper Bag Machine Co. vs. Waterbury, 30 F.R., 389; Travers vs. Am. Cordage Co., C.D., 1895, 125, 70 O.G., 277, 64 F. R., 771);" and Mr. Justice Shiras stated in his dissenting opinion: "I can not assent to what is perhaps rather intimated than decided in the opinion of the court - that what is called a 'process', in order to be patentable, must involve a chemical or other similar elemental action".

After Westinghouse vs. Boyden, above referred to, in which the majority

opinion said in effect that it is still an open question whether claims to mechanical methods are patentable, came the decision The Expanded Metal Co. vs. Bradford et al., and The General Fireproofing Co. vs. The Expanded Metal Co., C.D., 1909, 521. The claim in the patent in suit read as follows:

> "The herein-described method of making open or reticulated metal work, which consists in simultaneously slitting and bending portions of a plate or sheet of metal in such manner as to stretch or elongate the bars connecting the slit portions and body of the sheet or plate, and then similarly slitting and bending in places alternate to the first mentioned portions, thus producing the finished expanded sheet metal of the same length as that of the original sheet or plate, substantially as described."

The most pertinent paragraph of this opinion is:

> "We therefore reach the conclusion that an invention or discovery of a process or method involving mechanical operations, and producing a new and useful result, may be within the protection of the Federal statute, and entitle the inventor to a patent for his discovery".

In Corning vs. Burden, Mr. Justice Grier said:

> ". . . It is when the term process is used to represent the means or method of producing a result that it is patentable, and it will include all methods or means which are not effected

> by mechanism or mechanical combinations.
>
> "But the term process is often used in a more vague sense, in which it can not be the subject of a patent. Thus we say that a board is undergoing the process of being planed, grain of being ground, iron of being hammered or rolled. Here the term is used subjectively or passively as applied to the machinery operated on, and not to the method or mode of producing that operation, which is by mechanical means, and the use of a machine, as distinguished from a process.
>
> "In this use of the term it represents the function of a machine, or the effect produced by it on the materials subjected to the action of the machine. But it is well settled that a man can not have a patent for the function or abstract effect of the machine, but only for the machine which produces it."

It will be observed that the court did not directly say that methods "which are effected by mechanism or mechanical combinations" are not patentable.

In the case of Ex Parte Shippen, C.D., 1875, 126, decided by the Commissioner of Patents, the claim was as follows:

> "The improvement in the art of manufacturing wooden shoes by machinery, hereinbefore set forth, which consists in cutting, shaping, and boring the blank by submitting it

> successively to the operation of mechanism substantially such as set forth."

The following quotation from that decision, although the holding be by a minor tribunal and prior in point of time, appears in view of the Expanded Metal case to set forth in apt language, the present attitude of the courts and the Office:

> "What is set forth is a well-defined order of mechanical operations. The successive steps are all adapted to each other, and the operation performed on the block at one step fits it to receive the operation to be performed upon it at the next; and although the operation is wholly mechanical, and requires a peculiar set of instruments, yet the order in which the successive operations are performed is not inherent in the machinery.
>
> The function of a machine is that operation which, when set in motion, it inevitably performs. Thus it is the function of a grinding-mill to comminute whatever is passed through it, of a lathe to give shape to bodies placed in it, or of an auger to bore. But where the operation of the machine, or of a series of machines, is supplemented by some new method of operation not contemplated in the construction of the machine, and not the inevitable result of its operation, and the new method subserves a new and useful purpose, it may amount to a patentable process, even though the operation depend necessarily upon the machinery. Such was the proces claimed in the Voelter patent sustained by the court (5 Fish., p. 34C), in

> which the mill or stone upon which the wood was to be reduced to fibre was old, and the novelty consisted in placing the wood in such a way that the fibre was torn transversely - the change in which the invention consisted being solely in the method of using the machine, which method was not contemplated originally in making the machine, did not necessarily result from its operation, required evident invention, and produced a new and improved result".

The opinion of the Court of Appeals of the District of Columbia, in the decision In re Weston, C.D., 1901, 290, 94 O.G., 1786, intimates that Risdon vs. Medart seems to have been misunderstood by some courts and by the Patent Office, as restricting the patentability of processes to those which involved chemical or other elemental action, and further states: "But we deem it unnecessary to go into that consideration; for we find no real antagonism between the two cases;", that is, between Risdon vs. Medart and Westinghouse vs. Boyden.

Whether there be an apparent conflict between the two decisions or not, a discussion of it becomes immaterial in view of the Expanded Metal case.

[illegible]

9

Article on Patentable Processes

A paper read October 6, 1914, before the Examining
Corps of the United States Patent Office

CLAYTON L. JENKS
First Assistant Examiner, Division Three,
U. S. Patent Office.

WASHINGTON, D. C.
1914

[illegible]

Processes.

This article is not intended as an exhaustive or comparative exposition of the theory of processes, which task, it is to be hoped, will later be taken up in an authoritative manner by some one of our seniors in the service. What has been aimed at here is to refresh our memories by means of a brief sketch, with a few homely examples, of some of the familiar basic principles of the process claimed from the standpoint of patentability.

What is a process? The answer is not easily found, although there are many definitions. Robinson states in Vol. I, sec. 159, that:

> "An art or process is an act or series of acts performed by some physical agent upon some physical object and producing in such object some change either of character or of condition."

In Cochrane *vs.* Deener, 11 O. G., 687, it is said that:

> "A process is a mode of treatment of certain materials to produce a given result; it is an act or series of acts performed upon the subject-matter to be transformed and reduced to a different state or thing."

As stated in Hopkins on Patents, Vol. I, page 45—

> "where a result or effect is produced by chemical action, by the application of some element or power of nature, or of one substance to another, such operations are called Processes. One may discover a new and useful improvement in the process of tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores, etc., irrespective of any particular form of machinery or mechanical device." This is a *process*.

To these definitions there are certain limiting principles, as laid down in the decisions, which form, in the majority of cases, uniformly logical and consistent precedents for our guidance. As to the seemingly contradictory decisions, we must remember that the doctrine of *stare decisis* does not always find sympathy here; and furthermore, that our old rule of law that "decisions—not dicta—make precedents" is observed as much by its breach as otherwise. And fortunately so, since after al every patent case stands upon its own merits, and each one of our guiding decisions may be entirely misleading, if interpreted in any broad sense apart from the peculiar facts connected with that case. Hence, our judicial authorities, by decisions, and where necessary by *obiter dicta*, as our inventive world progresses, are constantly changing the illogical and unethical practices which are not consistent with our broadening ideas of patentability.

Therefore, in our consideration of an application for a process, where the decisions appear inconsistent, we must examine the case under the searching rays of the one great question: *Is this process new, and if not, has a new, useful and unobvious result been obtained?* Then, a logical application of a few guiding principles, in the endeavor to do justice, will generally determine whether the claim is, in form and subject-matter, patentable.

Processes have been classified as:

(*a*) Those involving chemical or other elemental action.

(*b*) Mechanical.

A chemical process is clearly and uniformly held patentable. See *Westinghouse vs. Boyden Co., C. D.*, 1898, 443; *Ex parte Rogers and Winslow*, 87 *O. G.*, 699.

As to the mechanical process, the decisions hold that if the process consists of a mere function or principle of a *particular* mechanism, and it does not appear that it can be carried out by hand or by any other form of mechanism, it is not patentable. The machine alone, and not its method of operation, should be claimed. See *In re White*, 136 *O. G.*, 1771; *Expanded Metal Co. vs. Bradford*, 143 *O. G.*, 863. See, also, *Denning Wire and Fence Co. vs. American Steel and Wire Co.*, 169 *Fed. Rep.*, 793, in which it is stated that:

> "The phrase 'functions of a machine' is defined as that power or property of the machine of acting in the specific manner designed or intended by its construction; in other words, that which the

> machine is designed to do, as distinguished from the machine itself and from the product of its action on something external to itself."

There was a great doubt as to whether a process is patentable *if it could be practiced by several mechanical instrumentalities, so that it existed as an invention independently from any particular machinery.* This point was finally settled by Mr. Justice Day in Expanded Metal Co. *vs.* Bradford, 214 U. S., 366, in which he held that such a mechanical process is patentable, if a new and useful result is obtained, any expressions in Corning *vs.* Burden, 15 Howard, 252; Risdon Iron and Locomotive Works *vs.* Medart, 158 U. S., 68, to the contrary notwithstanding. See, also, *Cochrane vs. Deener*, 94 *U. S.*, 780.

The machinery to perform the process may be old, or it may be new and patentable. If the machinery is old, but is operated in a new way to produce a new and unexpected result, the process is patentable.

Of the rules, covering processes in general, we have:

(I) As stated in *Househill Co. vs. Neilson*, 1 *Webster Patent Cases*, 673, a *principle* can not be the *subject* of a valid patent, but as *applied* it may be the subject of a patentable invention. Robinson (Vol. I, sec. 135) states that:

> "A principle is some natural power or energy which operates with uniformity under given circumstances, and may thus be contemplated as obedient to law." . . .

A principle covers every mode, apparatus or process that accomplishes the result. See, for example, *Tilghman vs. Proctor*, 19 *O. G.*, 859.

In *O'Reilly vs. Morse*, 15 *Howard*, 112, the eighth claim of Morse on the telegraph was construed to be for the *use* of an electric current for marking signs at any distance, i. e., to be for the exclusive use of one of the powers of nature for a particular purpose and hence void.

See, also, *American Bell Telephone Co. vs. Dolbear*, 23 *O. G.*, 535, which states that the discoverer of a natural force or scientific fact can not have a patent for that; but he may patent a process by which he makes use of a certain effect of one of the forces of nature. In other words, the principle that heat will decompose substances can not be patented, as involving merely the use of a natural force, but the process involving the decomposition of marble into lime and carbon dioxide by the application of sufficient heat thereto might be patentable. This involves the specific application of a principle.

(II) Along the same lines we find that a mere process carried out by nature alone is not patentable. But a patentable process may be had where a force of nature is put into operation under a certain specified condition and then used for a practical purpose, as shown by the decision in *Cameron Septic Tank Co. vs. Village of Saratoga Springs*, 159 *F.*, 453, which involved the process of purifying sewage consisting in—

> "subjecting the sewage under exclusion of air, of light and of agitation to the action of anaerobic bacteria until the whole mass of solid organic matter contained therein becomes liquefied, and then subjecting the liquid effluent to air and light."

This claim was not considered to cover a mere process of nature.

(III) Similarly, it is clear that a process must cover more than a mere operative theory. See, for example, Manhattan General Construction Company *vs.* Helios Upton Co., 135 Fed. Rep., 785.

(IV) It goes without saying that a process must possess some utility. See Rembert Roller Compress Co. *vs.* American Cotton Co., 129 Fed. Rep., 355.

(V) A claim should be either to a manufacture or a process, not merely to the *use* of a thing. See *Ex parte Mayall*, 1873, *C. D.*, 134; *Ex parte Averell*, 11 *Gourick*, 2, 9.

In the case of Morton vs. N. Y. Eye Infirmary, 2 *Fisher*, 320, it was held that "the *use* of ether as an anesthetic was invalid."

(VI) "Where a process is capable of being carried out by a variety of apparatus, the validity of the claim is not affected by the want of novelty in the apparatus, if this process is new and produces a new result."

New Process Fermentation Co. *vs.* Maus, C. D., 1887, 402, 122 U. S., 413.

(VII) "A claim for a process, to whatever substance known or unknown it may be applied, is too broad." *Bailey Washing and Wringing Machine Co. vs. Lincoln, 4 Fisher*, 379.

Obviously, the claim must be limited to some art involving a particular material or group of analogous materials. For example, the process of heating *a substance* to 1,000 degrees centigrade to melt it, and then crystallizing it by cooling to 800 degrees could be applied neither to water nor to platinum. The process is necessarily limited in scope to a few particular materials, and should not be claimed in any broader application.

Of course, one may claim his invention as broadly as the limits of the art allow, provided the claim is not broader than the original disclosure, which disclosure, in turn, must be sufficiently clear that one skilled in the art may be able to utilize the same. (Rule 34.) For example, in *Eisenstein vs. Fibiger*, 160 *Fed. Rep.*, 686, a method involving coating canes with varnish and subjecting to a temperature of 240 to 300 degrees for not less than 3 hours was held void, because the limits of temperature stated were so wide apart that the process could not be carried out throughout the whole range claimed; hence, the claim was too broad in the sense of being inaccurate, vague and indefinite. This rule has been followed in *The Incandescent Lamp Patent Case*, 159 *.U. S.*, 465, and *In re Dosselman et al.*, 167 *O. G.*, 983.

(VIII) "A patentable process claim must include all steps necessary to produce the stated or any useful result." In re Creveling, 117 O. G., 1167.

As stated in this decision, the claim "appears to be neither a broad statement of the essence of the invention, nor a statement of a segregable part thereof, in itself novel or capable of producing a useful result. It is, upon its face, a claim purporting to cover a method but *lacking one of the steps which is essential* to the carrying out of the alleged method."

This seems to be clear, following the precedents of the decisions covering claims to structure. Each claim must define an operative process, however broadly stated. For example, in making a battery plate involving the four steps of pasting lead oxide on a grid, treating it with sulphuric acid, drying it and then electrolyzing as a cathode in a suitable bath to form a spongy lead electrode—if these four steps are all essential steps in making the electrode, then the first two steps alone, for example, are not patentable, since a finished and useful product is not produced thereby.

Of course, one is entitled to subprocess claims where they can be properly drawn. As stated in *Ex parte Oxnard et al., C. D.*, 1899, *page* 170:

> "An applicant may properly in one case have claims covering the principal or essential steps of his process, and other claims including these steps together with other specific steps which are not absolutely necessary to the performance of the process, but which add to its efficiency or make its operation more perfect."

In this case, claim 1 omitted the intermediate step, in a process of making sugar, of "agitating and reducing the temperature." Applicant contended that the omitted step was not essential to the performance of his process, although it was an improvement and rendered the process more practical. On this ground, the Examiner's requirement for division between claims 1 and 2 was overruled.

Similarly, in the example covering the making of a battery plate, referred to, if the step of drying the plate is not essential, but merely works toward greater efficiency and a better product, it may be left out of a broad claim. The claim without this additional step covers a complete, useful and operative invention by itself, and therefore is a true subprocess claim under the specific process.

(IX) This hypothetical claim suggests a difficulty, that of setting forth structure in a process claim. As a rule, a process claim should be expressed independently of the specific structure of the article treated and independently of the structure of the apparatus in which the process is carried out. So far as the steps of the process are concerned, it is clear that it is immaterial whether the battery grid, or plate, is made of woven lead wire gauze or of a reticulated lead plate made up of V-shaped bars cast together; since these steps of pasting, treating with acid, drying and electrolyzing can be carried out with the one electrode structure as well as with the other. Similarly, if the claim specified "applying the lead oxide paste with a *trowel* and treating the electrode with acid in a *rubber lined wooden tank,*" it would be objectionable. These structures have no patentable relation to the process steps. See *ex parte Crecelius,* 116 *O. G.,* 2531.

For example, it is held in *ex parte Ach,* 97 *O. G.,* 2411, that:

> "It is better form in a method claim to state that a mixture is heated at a moderate temperature than to state that the same is heated over a water bath." See, also, *In re Luten,* 143 *O. G.,* 1110.

This rule can not always be applied, however, in individual cases, especially in mechanical processes. Here the best we can say is that whatever structure is essential should be set forth to the minimum extent and only in the broadest possible terms, since no patentability is involved over the broad proposition in specifying particular structure.

(X) A troublesome question is that of *Analogous Arts.* The rule, simply stated, seems to be that a process claim in an application is anticipated by a patent for a similar process in an analogous art. See Ansonia Brass and Copper Co. *vs.* Supply Co., 58 O. G., 1694; Lovell Manufacturing Co. *vs.* Cary, 147 U. S., 623.

The rule is clear, but its application is difficult. The sweeping statement has been made that an old process applied to new material is not patentable. That this statement is too broad may be seen from the decision in *Tilghman vs. Morse,* 1 *O. G.,* 574, to the effect that "Driving cattle off a railroad track with a blast of sand does not anticipate sand blasting for cutting purposes."

The decisions along this line seem confusing until we approach our basic question—does such an application of an old process in this new art involve inventive skill—by first asking what is the purpose or the result to be obtained in this new field? If a *new, useful and unobvious result* is obtained, a patent should be granted. To make this clear, we might consider a few guiding decisions. For example: There is no invention involved in the cleansing of chewing gum by the same process used for cleansing rubber. These are analogous materials. Adams *vs.* Loft, 4 Banning & Arden, 495.

On the other hand, in *Tannage Patent Co. vs.. Zahn,* 70 *Fed. Rep.,* 1003, a process of manufacturing leather was held to be not at all analogous to a similar process for treating and dyeing fabrics.

In the former case (Adams *vs.* Loft) the only process was that of cleansing some thing, the nature of the thing being immaterial, since the results in the two operations were the same. In the latter case it was held that:

> While the process of tanning hides, abstractly considered, involving "saturating with acid, and then converting this into an oxide by chemical reduction" must always be the same chemical operation, it does not follow that there is no different process involved when this operation is applied to different materials to accomplish dissimilar results.

In accordance with these decisions, we find the following processes held unpatentable:

> No invention is involved in making artificial tooth crowns by the well-known process of striking up metals by means of a die, such as used in making thimbles, eyelets, etc. Rynear Co. *vs.* Evans, 83 Fed. Rep., 696.
>
> The method of casting stove covers is unpatentable over a similar method for casting wheels, shovels, etc. The process is merely that of casting, irrespective of what is formed thereby. Ex parte *Little,* C. D., 1869, page 25.
>
> Painting on canvas with a spray anticipates such on china. Fry *vs.* Rockwood Pottery Co., 101 Fed. Rep., 723.

A process for coating carbon paper anticipates the same applied to photographic bromide films. Eastman Co. *vs.* Getz, 84 Fed. Rep., 458.

A method of filling vessels with soda water anticipates the same applied to beer. Golden Gate Mnfg. Co. *vs.* Newark, 130 Fed. Rep., 112.

The difference between a process of blue tempering wire clock bells and the process of blue tempering furniture springs is at most a difference in the articles to which the process is applied, and is not a difference in process. Lovell Mnfg. Co. *vs.* Cary, 62 O. G., 1821. See, also, Howe *vs.* Abbott, 2 Story, 190; Brown *vs.* Piper, 91 U. S., 37; Penn. R. R. *vs.* Locomotive Truck Co., 110 U. S., 490.

On the other hand, we find a class of decisions holding certain processes patentable and supporting the theory of *Ansonia Brass & Copper Co. vs. Supply Co.*, 58 *O. G.*, 1694. It was held in this decision that:

> "If an old process be put to a new use which is not analogous to the old one, and the *adaptation* of such process to the new use is of such character as to require the exercise of inventive skill to produce it, such new use will not be denied the merit of patentability."

Similarly, a process applied to a new object and producing a new and previously unknown result is patentable. See *Mowry vs. Whitney*, 14 *Wallace*, 620.

The process of regulating electric lights does not anticipate a similar one for controlling the speed of electric cars. Electric Car Co. *vs.* Nassau, 91 Fed. Rep., 142.

If the adaptation of an old process to a new use is of such character as to require the exercise of inventive skill, it may be patentable. Smith *vs.* Nichols, 21 Wallace, 112.

This case held, it might be noted, that merely making a more perfect article or a change only in form, proportion or degree or the substituting of equivalents does not involve invention.

From these two lines of decisions we are safe, I believe, in deducing that an old process is patentable where applied in a new art to produce a new, useful and unobvious result. But, where the processes differ merely in the nature of the material acted upon, and no new result is produced, patentability is not involved. Hence, if by any accidents of classification, patents covering non-analogous arts should be found together, that is no reason for rejecting an application in one art upon a patent in the other art, although they involve the same process steps, if there is a difference in result between the two cases. If a patent, for example, for a rotary dasher churn has become located in the class involving the absorption of impurities from a gas, an application for the latter claiming the process of washing a gas in the spray of a suitable solution, produced by a dasher arrangement, and covering a similar structure to the churn and *apparently* the same process, namely, that of agitating a liquid, should not be rejected on the patent, because of the entirely different functions and results obtained in the two processes, one, that of making butter from milk, the other, that of removing impurities from a gas.

For, in the initial analysis of a claim, one determines primarily the function or purpose of the process, what result is to be accomplished. Then, in the effort to judge the patentability of the claim the main question is *not*, are the steps of the process *met* by the patent reference, but, even if the steps disclosed in the application are apparently identical with those in the patent, *do the two processes accomplish the same results*, and would a knowledge of the process in the patent lead one, skilled in the art, to carry out the process of the application for the purpose stated, without exercising the inventive faculty?

(XI) Aggregation of Processes:

> "The addition of one well-known process to another well-known process does not constitute invention unless some different or better result is produced than that which had been previously obtained." Mond *vs.* Duell, Commr. of Patents, 91 O. G., 1437.

In *ex parte Harris*, 168 *O. G.*, 1033, claims for preparing, storing and dispensing a beverage were considered aggregational, since each of the steps was complete in itself and independent of the others. In the case of Mond *vs.* Duell, cited above, applicant claimed the lixiviating of roasted zinc ores by caustic soda, thus producing a zincate solution, combined with a specific process of electrolytically depositing zinc on an electrode from a zincate solution. So far as anything set forth in the claim was concerned the zincate solution made by treating the ores might well have been employed in many kinds of processes, and, again, the zincate solution of the second process could have been made by any suitable method other than the one specified.

The court hinted, however, that a claim properly drawn, tying together these different steps to produce a unitary and continuous process with a useful and novel result would be patentable. And it must be said that it is more often faulty construction of a claim than any defect in the inventive idea that results in claims being rejected as covering an aggregation of processes. Hence, a hint thrown out by the Examiner to this effect will often result in the granting of a good patent. In that case of Mond *vs.* Duell, applicant probably had invented a patentable process involving the manufacture of metallic zinc from the ore by the use of caustic soda and the regeneration of the soda with the formation of chlorine as a by-product, all neatly combined in a unitary process; *but the claim did not say so.* As shown by *Bate Refrigerating Co. vs. Gillett*, 9 *F. R.*, 387, to add old processes to obtain a better result is patentable. Similarly, omitting a step with new results may make a new process. See *Lawther vs. Hamilton*, 42 *O. G.*, 487.

(XII) "An accidental, unutilized anticipation of a process is not a reference." Tilghman *vs.* Proctor, 102 U. S., 707.

In *Carnegie Steel Co. vs. Cambria Iron Co.*, 99 *O. G.*, 1866, it was stated that:

> "Where patentee's process of mixing molten metal drawn from several blast furnaces includes retaining at all times a substantial quantity of molten metal in the mixer and this step is what

> adds value to the process and makes it a success. Held, not anticipated by mixing devices in which the metal might be retained when the users did not contemplate such use or understand its advantages."

In order that a process be anticipated by a prior patent for a mechanism, it is not only necessary that the prior patent might have been used to carry out the process, but that such use was either contemplated or *would have occurred in the ordinary mechanical operation of the device.* In the decision, *In re Moulton and Jones*, 191 *O. G.*, 588, it is held that:

> "A method of condensing steam is unpatentable over a prior patent showing a condenser, in which the several steps of the process are carried out, where applicant has discovered only the *underlying principle* of the device."

In such a case—

> "the first patentee is entitled to his mechanism for every use of which it is capable, even though he did not foresee all of them." See the decision in *New Process Fermentation Co. vs. Koch*, 29 *O. G.*, 535.
>
> (XIII) "If the process is no more than the necessary or obvious manner of effecting the product, the product alone is patentable." Ex parte Trevette, 97 O. G., 1173.

If the claims are accordingly in the wrong form the Examiner may suggest to applicant that the claim, although expressed as a process is nothing more in fact than an improperly worded claim for the product. Although any discussion of the questions of election and joinder of invention will not be attempted here, it may be noted that if the claim was not in the wrong form and applicant had elected to prosecute the process claim, then he has bound himself by the election and can not shift over to the article or apparatus in support of this statement, see *Ex parte Aberli*, 91 *O. G.*, 2371.

SPECIFICATION.

(XIV) Finally, it should be stated that applicant need not disclose *every* mode or all the types of apparatus that he may employ, but he should set forth clearly and completely some one particular mode or apparatus by which the process can be carried out. See *Tilghman vs. Proctor*, 12 *Otto*, 707.

> "If a process has been described without the disclosure of any known means to accomplish the result, and inventive skill would be required to determine such means, then no patentable process is involved." Downton *vs.* Yeager Milling Co., 17 O. G., 906.

CONCLUSION.

In concluding this article, it is considered sufficient merely to repeat the one important principle, which underlies basically the whole theory of the process claim:

A process claim is patentable if it covers a new process, whether the result is new or old; but, if the process steps are old, the claim is not patentable, unless a new and useful result, unobvious to those skilled in the art, is obtained.

With this in mind, a logical and conscientious application of the few theories, as outlined here, will surely not work any injustice, either to the inventive world or to the general public.

10

Functional Statements in Claims

by

Wm. I. Wyman,
Second Asst. Examiner, Division 3
U.S. Patent Office

Oct. 8, 1914.

Journal of the Patent Office Society.

Vol. 4 No. 9 Page 433

Paper No. 10

Paper No. 11:

Pertinent Decisions and Orders Relating to Some of the Rules of the Rules of Practice.

By Addis D. Merritt, Prin 11 Exr Div 4

Oct 15, 1914.

This paper is intended to cover a few pertinent decisions and Commissioners' orders relating to certain of the Rules of Practice. I have by no means made an exhustive search of all the decisions bearing on the rules to which I refer. My object is mainly to bring to your attention decisions that were rendered before Underwood's Digest was published, decisions and orders that bear on questions arising in the examination of applications for Letters Patent. Some of the rules were given their present form in view of these decisions. All the decisions and orders cited set forth what I consider good practice.

Rule 5. "An assignee of the entire interest of an invention is entitled to hold correspondence with the office to the exclusion of the inventor."

There is but one decision that bears on this rule to which I wish to call attention, namely, Ex parte Baker, Commissioner's MSS., vol 41, 1889, page 289. In the Baker case the Examiner had required the power of attorney given by the inventor to be ratified by the assignee of the entire interest of the invention before the office would further recognize the attorney in the prosecution of the application. In considering this question on petition, Commissioner Mitchell said:

> "unquestionably the assignee, under Rule 5, is entitled to hold correspondence with the office to the exclusion of the inventor, whenever he asserts that right; but the office ordinarily acts upon the

> presumption that the assignee of the whole interest will assert his right, unless he is willing to be represented by the attorney of the inventor. Until the assignee does assert this right it is the practice of the office, to be deviated from only in exceptional cases, to recognize a correspondingly exclusive right on the part of the attorney for the inventor."

Rule 6. "When there has been an assignment of an undivided part of an invention, amendments and other actions requiring the signature of the inventor must also receive the written assent of the assignee."

In considering this rule I find that there are five instances in which amendments and other actions require the signature of the inventor and therefore the written assent of the assignee of an undivided part of an invention. They are concessions of priority, abondonment of an application, disclaimer to avoid an interference, application for reissue, and power of attorney.

Another feature worthy of consideration in connection with Rule 6 relates to an assignee of an undivided part of an invention within and throughout a specified part of the United States. This assignee is not such as would come under Rule 6, as was fully discussed in Ex parte Funston, C.D., 1889, page 223.

Funston was the assignee of an undivided part of the invention throughout a specified part of the United States in two applications of David Savage. Funston asked that he be allowed to join with Savage in the prosecution of the applications. It may be of interest to hear what Commissioner Mitchell said on this point:

Francisco, Cal., and the other in this city. The applicant failed to designate which one the office should hold correspondence with. In discussing this point, Commissioner Hall set forth the practice as follows:

> "Simply as a matter of practice, it would be weel, undoubtedly, where, like the present case, one independent firm located in some other city and another independent firm located in this city are each and both nominated as principal attorneys, for the office, in the absence of any direction or dindication of the intention or wishes of applicant or of the attorneys themselves, to conduct its correspondence with the resident firm."

Rule 14 relates primarily to information and advice to be given by the office in response to inquiries about subject-matter not pending before the office. However, the part that concerns us is found in the last three lines of paragraph 1, and is as follows:

> "nor can it act as an expounder of the patent law, nor as counsellor for individuals, except as to questions arising within the office."

This part of the rule has been construed as giving the Examiner ample authority to advise an applicant concerning questions of novelty which he has disclosed in his application but has failed to claim. I wish to quote briefly from two decisions to bring out what two Commissioners, for whose opinions I have the highest regard, considered good procedure under this part of Rule 14. The first one is Ex parte Donovan, C. D., 1888, page 100.

This case came before the Commissioner on petition from the action of the Examiner refusing to enter an amendment presenting a new claim which applicant contended that the Board of Examiners-in-Chief had recommended in their decision on an appeal. Commissioner Hall, in considering the refusal of the Examiner to enter the amendment, said:

> "The rules of the office . . . point out that at all times in the investigation of an application and in the progress of appeals it is the duty of each tribunal having jurisdiction of the case to see to it that the inventor shall secure a patent for whatever patentable matter may be shown in his application. As has been frequently stated by me in decisions, the office must put itself in the attitude of a friend and not of a litigant with the applicant, and see that he secures every right that belongs to him."
>
> "Now, unquestionably, if under Rules 68 and 139 it is the duty of the Examiners-in-Chief and the Commissioner to suggest and recommend in order that an applicant may receive letters patent for subject-matter not involved in the appeal, it must be the duty of the Primary Examiner in the examination of the case made by him to point out and recommend the same thing. I do not mean by this that it is the duty of the Examiner to become an agent or an attorney for the applicant, but I think in all cases when he is satisfied or believes that the application contains patentable matter which is not claimed, it is his duty to advise the applicant briefly and specifically, precisely as the Examiners-in-Chief and the Com-

> missioner are authorized to do, as above stated."

The other decision is Ex parte Bailey, C.D.,1890, page [illegible], by Commissioner Mitchell, wherein the same point arose as in Ex parte Donovan. The Commissioner said:

> "As to the second point, the Examiner states that Rules 14 is distinct and reflects the settled practice in stating that the office can not act as counsellor for individuals. Rule 14 makes an exception 'as to questions arising within the office.' The cases are not relatively numerous in which unsought advice should be tendered, but where advice is asked there is no reason why it should not ordinarily be given. The correct practice is laid down by Commissioner Hall in Ex parte Donovan, C.D., 1888, 100, and I desire to emphatically express my concurrence in the views set forth in that case."

Rule 19. "Substitution or association can be made by an attorney upon the written authorization of his principal; but such authorization will not empower the second agent to appoint a third."

I wish briefly to refer to but one decision in connection with this rule, namely, Ex parte Ranks, C. D., 1887, page 7. In the Ranks case an associate attorney was appointed by the applicant without the consent of the principal attorney. In considering the appointment the Commissioner held that an associate attorney can not be nominated by an applicant without the consent of the principal attorney. If this were permitted it would probably result in confusion in the prosecution of the application. The regular course would

be for the principal attorney to nominate his associate upon the written authorization of his client. The nomination of an associate attorney made by an applicant without the consent of the principal attorney can not be recognized or acted upon.

Rule 34. "The specification is a written description of the invention or discovery and the manner and process of making, constructing, compounding, and using the same, and is required to be in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which the invention or discovery appertains, or with which it is most nearly connected, to make, construct, compound, and use the same."

The first decision to which I wish to call your attention is Ex parte Kerr, C.D., 1884, page 27. The case was before the Commissioner on petition to have the Examiner's objection that the specification was not full and sufficient withdrawn. The decision is interesting merely by reason of the Commissioner's interpretation of the meaning of the words "skilled in the art," which were as follows:

> "The solution of this question turns upon the interpretation which should be given the words 'persons skilled in the art.' By these words I do not think is meant persons who excel their fellows in particular arts or sciences in which they are skilled, but merely men who have ordinary or fair information in that particular line."

The next point I wish to refer to in considering Rule 34 is, in my opinion, an important one; that is, the description of constructions in specifications that are not shown on the drawing. In my experience

as an assistant Examiner I found that in at least 50 per cent of the applications I examined, the specifications thereof described modifications not illustrated on thedrawings. Since examinations are made mostly by "an inspection of the drawings," applicants should be required to illustrate on the drawings all modifications described in the specification or cancel the description thereof. This practice is fully warranted and clearly set forth in Ex parte Witty and Caffrey, C.D., 1884, page 26, in which Commissioner Butterworth said:

> "Whether a particular modification described in the application is simply a mechanical equivalent it may sometimes be difficult to determine. Counsel is aware that examinations are conducted, in the main, by an inspection of the drawings. It is, therefore, not only proper, but necessary, that each drawing shall disclose as fully as possible the invention, and also the substantial modifications thereof, in order that two patents may not be issued for the same thing, thus doing injustice to the public and to the patentees."

Another point in connection with Rule 34 may be briefly referred to by reference to two decisions wherein a reference in the specification to a copending application for a full disclosure of the construction was held not to be sufficient.

The first of these decisions is Ex parte Borgfeldt, C.D.,1889, page 199. The drawings in the Borgfeldt application disclosed a machine and the claims covered a process.. The description was not sufficient to give a clear understanding

of the machine. Applicant undertook to overcome an objection to this effect by a reference in the specification to a co-pending application which fully described the machine. Commissioner Mitchell, in commenting on this point, said:

> "The Examiner is correct in holding that a reference to a contemporaneously-pending application for a fuller description is not permissible. It can not be assumed that the application referred to will mature into a patent."

The second decision is Ex parte Chadwick, C.D., 1891, page 169. The Chadwick application was for an improvement on a machine disclosed in a pending application filed by another inventor. Reference was made in the Chadwick application to the co-pending application for a full disclosure of certain parts of the machine. On this point Commissioner Mitchell said:

> "Descriptions contained in pending applications are not portions of the prior art. Such applications may become abandoned by failure to prosecute, they may become forfeited by reason of nonpayment of final fee, or for other reasons they may never mature into a patent. The office can not act upon the assumption that applications will necessarily mature into patents, and Rule 36 is not satisfied by a reference to pending applications for the parts which 'necessarily co-operate with' the specific improvement for which a patent is asked."

Another point of interest which may be briefly referred to in connection with Rule 34 is the practice laid down in Ex parte Lewis and Unger, C. D., 1903, page

303. Lewis and Unger filed two applications, as joint inventos, and prosecuted claims in both to final rejection. On appeal to the Board of Examiners-in-Chief the Examiner was reversed as to certain claims in both applications and the board recommended that all the patentable claims should be embodied in one of the applications, which recommendation was complied with and the Examiner passed the application to issue. The applicants then filed a new application containing the allowed claims, but did not make a reference therein to the prior applications. The Examiner required applicants to insert a reference in the specification of the new application identifying the prior applications. On petition from this requirement Commissioner Allen said:

> "It is clear from the letter of abandonment . . . that the applicants intend to retain all benefits which may result to them from their prior applications; but they apparently wish to conceal that matter from the public until it becomes necessary to use it. In other words, the result is that after the patent is issued they may use the applications for their own benefit if the occasion required; but the public is deprived of the right of the patentees. The public will furthermore be deceived and misled as to the record date to which the patentees are entitled."
>
> "When the patent is granted, all proceedings leading to its grant should be public property. The rule of secrecy no longer applies to those proceedings."

The Commissioner in the following paragraph set forth and instituted the practice as follows:

> "It is held that the present application should not be allowed without a reference to the prior applications and that there should be indorsed upon the file wrapper a statement that it is a continuation of those applications. This indorsement should take the place of that usually indorsed upon divisional applications."

In Ex parte Taylor, Jr., C.D., 1905, page 45, the circumstances were a little different from those in Ex parte Lewis and Unger. The Taylor application was filed for the same construction, presenting the sole claim of the forfeited application. The Commissioner held that the new application was a continuation of the first application and that the new application should contain a notice of the first application, for the reasons set forth in Ex parte Lewis and Unger.

Another decision bearing on this point is Ex parte Kruse, C.D., 1910, page 119. In the Kruse application a part of the disclosure was for the same subject-matter as the disclosure in a previous application to the same inventor. The Commissioner in this case held that a subsequent application is a continuation of a prior application, when the two have common subject-matter as in this case.

Commissioner Moore found that attorneys were somewhat careless in amending cases in accordance with the practice laid down in the last three above referred to decisions. Frequently applications were foud to be otherwise in condition for issue and the requirement of the insertion of a reference in the specification

identifying the parent application or the application of which the present application is acontinuation had not been complied with. Consequently another action on the part of the office insisting on the requirement of the insertion of the reference in the specification was necessary. So in order to facilitate the work of the office, the Commissioner, on October 10,1912, issued Order No 2010, which sets forth the practice to be followed in cases of this character, and is as follows:

> "When an application is filed which in the opinion of the Examiner is a continuation of or a substitute for a previously filed application, the Examiner will not require applicant to insert a reference to the prior application in the specification, it being regarded as sufficient if this reference appears somewhere in the record of the application. The Examiner will make the appropriate entry upon the face of the file wrapper. The heading of the printed patent will conform to this entry."

There are many contingencies sure to arise under this order that have not been settled by any decision as yet published. For example, suppose an applicant files a parent application containing two inventions, he then divides and files a second application containing one of the inventions plus new matter, should any entry thereof be made on the file wrapper of the parent application? The second application being only a continuation in part of the parent application.

Just one more reference involving

Rule 34, which relates to the filing of substitute specifications. The practice relative thereto is found in Ex parte Orewiler, C.D., 1911, page 100. This case came before the Commissioner on petition from the action of the Examiner in refusing to enter and consider a substitute specification. In declining to grant the petition. Acting Commissioner Billings said:

> "There is a grave objection to the filing of substitute specification in that such action requires the office not only to examine the substitute specification to determine whether it is in proper form and meets the requirements of the law, but also to carefully compare the same with the original disclosure in order to determine whether new matter has been inserted therein."

One can hardly fail to realize what a saving of labor this practice establishes, especially when you take into consideration heavy machine cases.

Rule 37. "The specification must conclude with a specific and distinct claim or claims of the part, improvement, or combination which the applicant regards as his invention or discovery."

A paper of considerable length could be written relative to this rule by reason of the many decisions of the Commissioners. However, I shall refer only to one question which I have found frequently arises in the examination of applications, and that is the use of alternative phrases or terms in claims.

One or two of the Commissioners' decisions seem to warrant the use of alternative terms when the terms are equivalents. However, the majority of

the decisions discourage their use. It seems to me to be good practice not to allow alternative terms in claims at all, for if the terms are equivalents only one is necessary and if they are not equivalents they render the claim indefinite. If this practice is followed there would be no possibility of the question of indefiniteness arising in any litigation in which the patent may become involved. In connection with this subject I wish to call attention to four decisions, which seem to me to warrant the practice herein stated.

In Ex parte Holden, C.D., 1903, page 442, the words "rods or wires" were used in claim 2 to designate certain parts of the apparatus. Commissioner Allen said:

> "The applicant does not disclose two structures to one of which he applies the term 'wires' and to the other the term 'rods,' but applies both terms to the same structure. The apparent alternativeness is one of language merely and not of structure. If both of these terms describe the structure correctly, there is no reason for objecting to the phraseology 'wires or rods.'"

While the alternative phrase used was held to be permissible, the decision warrants the practice above indicated. For if the "alternativeness" is one of "language merely" then either one of the words used is sufficient to give applicant full protection and all possibility of criticism is avoided.

"In his first four claims

> applicant does not employ comprehensive designating language applicable alike to all the forms of the device. If the applicant can devise some one form of expression which comprehends the patentable novelty which is common to all of the forms and styles shown and described, he is clearly entitled to employ that expression to cover the generic invention, and also to claom specifically whichever of the specific forms he may elect to cover and protect. An inventor is always entitled to equivalents--that is to say, to devices which operate in substantially the same way to accomplish substantially the same result in a combination. In the present case if the applicant desires nothing more than the benefit of the law of equivalents, the expression 'or equivalent cleaning device' is surplusage. If he desires some advantage beyond that which the law of equivalents gives him, he is seeking more than can properly be accorded to him."

In Ex parte Caldwell and Barr, C.D., 1906, page 58, petition was taken to the Commissioner from the Examiner's objection that the terms "a mixing compartment containing a quantity of coke or the like," in claim 2, and"a casing containing a mass of coke, brick, or the like," in claim 3, were indefinite. In denying the petition Commissioner Allen said:

> "It is always objectionable to use in the claims words of description which are alternative in form, and this is true even where it appears from consideration of the whole case that the words are not intended to

> convey alternative or inconsistent ideas. Where possible, some terms of description should be used which are generic."

In Ex parte Phillips C.D., 1908, page 195, the phrase "asbestos or its equivalent" was used in the claim. Acting Commissioner Billings, in criticising the phrase, said:

> "The objection to the use of the expression 'or its equivalent' is believed to have been properly made. It is objectionable to use terms which are alternative in form, and where possible some terms of description should be used which are generic."

Rule 40. "The specification must be signed by the inventor or by his executor or administrator . . . Full names must be given."

It is only necessary to dwell on this rule for a minute as the practice is laid down and well defined in Ex parte Gentry, Commissioner's Order No. 600; Ex parte Clark, C.D., 1906, page 379, and Commissioner's Order No. 2018.

In Ex parte Gentry, C.D., 1888, page 115, the Examiner had objected to the applicant's signature to the specification which was signed "N.Kate Gentry" as being incomplete. In affirming the action of the Examiner, Commissioner Hall said:

> "The law knows but one Christian name. The middle names are mere matter of ornament or of social distinction, and it is well settled that an omission of the middle name, or of the initial of the middle name, is wholly immaterial."

In order to make the practice, as laid down in Ex parte Gentry, uniform, Commissioner Mitchell, on June 4, 1890, issued Order No. 600, which is as follows:

> "When the full first name of the applicant does not appear either in his signature or in the preamble to the specification, the Examiner will, in his first official letter, require an amendment supplying the omission, and he will not pass the application to issue until the omission has been supplied, unless an affidavit shall have been filed setting forth that the full first name is the one originally given by him."

In Ex parte Clark it was held that when different forms of applicant's name appeared in the preamble and signature to the specification, one of them a corruption or nickname, an affidavit should be furnished setting forth applicant's correct name. If the incorrect form is in the preamble, correction should be made by amendment.

In order to avoid unnecessary delay in passing applications to issue, Commissioner Moore, on November 11, 1912, issued the following order:

> "Order No. 2018. Supplementing Order No. 600. In applications otherwise ready for allowance, where the first name of the applicant is disclosed in the record but does not appear in the preamble to the specification, the Primary Examiner will insert first Christian name of the applicant by amendment to the preamble, on form No. 2254."

Rule 41 relates to applications presenting claims for separate and independ-

ent inventions. It involves the very interesting question of division and affords subject-matter on which a book could be written. As my time limit will not admit of an extended consideration of any one question owing to the scope of the matter I have undertaken to cover, I shall refer to one line of practice only which may properly fall under this rule, and that is the practice which relates to genus and species claims.

The practice relating to genus and species claims was clearly laid down for the first time in Ex parte R.N. Eagle, C.D., 1870, page 137, and has been the settled practice from that date to the present day. It may be of interest to note that the practice relating to genus and species claims is the only practice with which I am familiar that has stood undisturbed for so long a time.

In Ex parte Eagle, the subject-matter of the specification was a tin blacking box, having resting on the top of the blacking, to act as a follower, a foraminous plate, there being several forms of the plate shown and described. The four claims of the application were broad enough to cover all the forms; in other words, they were generic to all the figures of the drawing. The Examiner required the applicant to limit his application to a single species. In considering this requirement, Commissioner Fisher said:

> "The applicant describes a new genus, to wit, a box provided with a follower. He may fairly describe several species of the genus, and may take any claim that is generic in its character and included them all. In addition to this, as the genus can only be illustrated by at least one

> of the species, he may select one of the embodiments of his invention for specific claims; but he can not found one claim on one species, and a second on another, and a third on another, and so on."

If any one desires to go further into this question attention is called to the decision of Acting Commissioner Doolittle in Ex parte Howland, C.D., 1877, page 180, and that of Commissioner Paine in Ex parte Heaton, laid down by Commissioner Fisher.

Rule 46 relates to the oath to an application. This rule brings to our attention our old friend Ex parte Branna, C.D., 1901, page 222. The question in this case, you will doubtless recall, was whether the time intervening between the date of executing the oath and the date of filing the application complete was reasonable. The time intervening was thirty-one days, which the Commissioner held to be unnecessarily long and insisted upon the requirement of a new oath. To have proper "force and value" when questions of public use and sale, publications, and prior patents are concerned the application should be filed immediately after the execution of the oath.

In determining what is a reasonable time, Commissioner Allen, in Ex parte Branna, set forth as a general rule the following:

> "As a general rule it may be stated that the requirement for an additional oath should be made where the delay was longer than three weeks in addition to the time which may naturally be ex-

> pected to be required in transmitting the papers by mail to this office."

Ex parte Branna does not apply in divisional applications because the divisional application is in effect a part and continuation of the parent application. Ex parte Davison, C. D., 1912, page 94.

Rule 48 requires a supplemental oath whne a claim is presented for matter "originally shown or described but not substantially embraced in the statement of invention or claim originally presented."

The main reason I have for considering Rule 48 is the frequent misunderstanding of the function of the rule. I have found in several instances attorneys who professed to believe that new matter could be introduced into an application when supported by a supplemental oath, and I have known assistant examiners who were of the same opinion.

New matter can not be introduced into an application properly under any circumstances The sole purpose of a supplemental oath is clearly stated in Rule 48, and it can be used only to support . . . "Matter originally shown or described but not substantially embraced in the statement of invention or claim originally presented."

This point was clearly set forth by Commissioner Mitchell in Steward vs. Ellis vs. Lee vs. Howe, C.D., 1899, page 243, as follows:

> "The office of a supplemental oath, as set forth in Rule 48, is to justify the introduction by amendment of a claim not substantially embraced in the statement of in-

> vention or claim originally presented. Rule 48 affords no justification for the introduction of matter by way of amendment which is not substantially described or disclosed in the application, whether with or without a supplemental oath. To so construe Rule 48, as to warrant the introduction of what is commonly known as 'new matter' would be to ascribe to it a function utterly without warrant of law."

Just one more decision in connection with this rule and that relates to the form of a supplemental oath. In Ex parte Cook, C.D., 1892, page 222, the Examiner evidently judging from the character of his action was of the opinion that the forms given in the Rules of Practice were mandatory. Here is what Commissioner Mitchell said in considering that point:

> "It is not necessary that a supplemental oath filed under Rule 48 of the Rules of Practice specify the serial number and date of filing of the application to which it refers if the proposed amendment is otherwise properly identified. The forms given in the Rules of Practice are suggestive and not mandatory."

Rule 50. "The drawing may be signed by the inventor or the inventor's name may be signed thereon by the attorney, and must be attested by two witnesses."

In Ex parte Kyle, C.D., 1890, page 84, the question between the Examiner and the attorneys was whether the two witnesses on the drawing attested the drawing or the signature to the drawing. The attorneys

insisted the witnesses attested the drawing, while the Examiner maintained they attested the signature to the drawing and therefore the member of a firm of attorneys who personally signed the drawings was not a competent witness. In commenting on this point Commissioner Mitchell said:

> "I have been at considerable pains to investigate the question under consideration and have been unable to find a single authority in support of any other view than that the witnesses attest the signature. Under such circumstances I do not feel authorized to sustain the other view of the construction of the eminent authority referred to that the grammatical construction of its language would seem to indicate that the witnesses attest the instrument rather than the signature. . . .I am therefore compelled to sustain the Examiner and deny the petition."

One more reference in connection with this rule. Commissioner Simonds in Ex parte Krause, C.D., 1891, page 164, in reference to the signature to the drawing, said:

> "Section 4889, Revised Statutes, requires the drawings to be signed. Stamped signatures, as used in this case, are not sufficient."

Rule 55 also relates to the drawings and sets forth for the most part details governing the making of Patent Office drawings and in the main concerns the Draftsman's Division only. However, there are two sections thereof which interest us and may be briefly considered; namely, sections 6 and9.

Section 6 has to do with reference characters on drawings and in connection with section I wish to call your attention to Ex parte Cook, C.D., 1890, page 81. In this case four different forms of the invention were disclosed on the drawing and each of the forms was designated by the same reference letter. The Examiner objected to the use of the same letter to designate the four forms disclosed on the ground that they were modifications and therefore different structures, and consequently the use of the same letter to indicate the various structures rendered the disclosure confusing. In considering this point, Commissioner Mitchell very clearly and concisely suggested the practice as follows:

> "In the present case four different forms of cleaner are shown, the first form being a bristle-faced brush, as shown in Figs. 1,2,3, and 4; the second form being composed of a backing of wood and a facing of chamois skin, as shown in Fig. 5; the third being composed of a backing of wood faced with India-rubber, as shown in Fig. 6, and the fourth being composed of a stick wrapped with cloth, as shown ing Fig.8. Each of these four different forms of cleaner is designated by the same reference letter F. These parts, though described as equivalent devices, are nevertheless different parts within the meaning of Rule 52, and they clearly come within the prohibition of the rule, which says that the same character must never be used to designate different parts."
>
> "The question immediately under consideration is solved by the language of the present rule.

> Formerly the rule simply provided that if the same part of the invention appeared in more than one figure it should always be represented by the same letter. As the rule now reads, a prohibitory clause is added, providing that the same character must never be used to designate different parts. The same parts only can be designated by the same character, but nullum simile est idem. If alternative constructions or modifications are shown, a permissible method is to employ the same letter with an appended figure or exponent--as A, A^1, A^2, A^3,--thereby at once conforming to the rule and at the same time suggesting the presence of similarity and the absence of sameness."

Section 9 prohibits advertisements of any description on the drawings. It is so clear as to need no comment and I only desire to refer to a letter of the Commissioner to the Chief Draftsman on October 5, 1885, which defines the meaning of the word "advertisement" as used in this section. The letter in substance is as follows:

> The word "advertisement" applies to anything known as such or anything that favors any particular person, place or country. Fictitious names may be used as John Doe and names, ets., that do not favor any particular person, place or country.

Rule 75 relates to affidavits for the purpose of over-coming references. My remarks are confined to the part of the

rule concerning domestic patents. In this connection I wish to briefly refer to two decisions to bring out what an affidavit under this rule should set forth.

The first one is Ex parte Saunders, C.D., 1883, page 23. On this point Commissioner Marble said:

> "If the applicant rests his claim of invention upon drawings or devices made by him, he should produce such drawings or machines or furnish copies or representations of the same, in order that the office may judge whether he in fact made the invention claimed in his application."

Commissioner Mitchell in Ex parte Donovan, C.D., 1890, page 109, set forth this point clearly as follows:

> "If the applicant made sketches, he should so state, and produce and describe them; if the sketches were made and lost, and their contents are remembered, they should be reproduced and furnished in place of the originals. The same course should be pursued if the disclosure was by means of models. If neither sketches nor models are relied upon, but it is claimed that verbal disclosures, sufficiently clear to indicate indinite conception of the invention, were made, the witness should state as nearly as possible the language used in imparting knowledge of the invention to others. By whatever means the applicant claims to have disclosed the invention he must so present those means to the Examiner as to enable

> him to determine whether or not the invention was present in the disclosure. The mere statement of the applicant that he disclosed the invention is of no avail, either to constitute evidence of disclosure or to impart sufficiency to a statement of facts in themselves inadequate."

The practice was held to be in such cases that where the Examiner believed the affidavit to be insufficient he should reject the claims involved on that ground.

You will note that the rule distinctly provides that an affidavit applies only in the case of a "domestic patent which substantially shows or describes but does not claim the rejected invention." If the rejected invention is claimed in the patent the applicant should make the claim or claims of the patent that clearly read on applicant's construction, so that the question of priority of invention may be determined by an interference proceeding. The practice in this particular was definitely stated in Ex parte Card and Card, C.D., 1904, page 383.

In this decision the Commissioner held that the Examiner was correct in suggesting certain claims of the patent to the applicants for the purpose of interference. Alos that the Examiner was right in informing the applicants that unless they made the claims, certain claims in applicants' application which the patentee could make, or which read on the construction disclosed in the patent, would be rejected on the patent. Furthermore, the Examiner rightly fixed a time limit within which the applicants should make the claims suggested.

32

12

Invention and Patentability

by

John F. MacNab,
Principal Examiner, Division Five
U. S. Patent Office

Oct. 22, 1914.

Journal of the Patent Office Society

Vol 4 No.10 Page 480

Paper No. 12

13

Paper No. 13.

FORMAL OBJECTIONS to applications for Patents.

By
Charles K. Wead,
First Assistant Examiner, Division 5,
United States Patent Office.

Oct 22, 1914

Rule 34 following the Statute 4888 requires that the specification of an application for a patent shall be "in such full, clear, concise and exact terms as to enable any person skilled in the art or science to which the invention or discovery appertains . . . to make, construct, compound and use the same," and the statute further requires that the applicant shall particularly point out and claim his invention. So the law requires that 300 or 400 of us perform continually the unwelcome task of censors. Obviously much the greater part of the work must be done by the assistant examiners, for the primary Examiner will rarely have occasion to act on questions of censorship unless they have been raised by an assistant. The assistance are left mainly to their own judgment in the matter, with little test of their judgment either by entrance or promotion examinations and with few decisions to promote uniformity and team-work. And so men are found taking almost every attitude from an easy-going ignoring of the of the Statute to that of the unnamed Examiner, who tradition says, wanted a case to be not only in good English, but in elegant English.

Let us consider from three points of view this duty of criticism, censorship,

blue-penciling, revision, objection, playing schoolmaster, assisting applicants, or whatever one likes to call it.

1. What is involved in it.
2. How it may best be carried out.
3. What light do the decisions throw on our daily problems.

Start with the law of 1790, which states the purpose of the specification to be "to the end that the public may have the full benefit thereof after the expiration of the patent term." This makes clear the purpose to grant the patent, not in the inventor's interest, but for the public good, and because there is some new knowledge offered to the public. If this knowledge is offered in a foreign language, or in Miltonian English, or in a verbose, ungrammatical, incomplete or inaccurate way, its availability to the public is diminished or destroyed. So one of the duties of the Examiner is to look out for the public interest; and if the good-natured decision is quoted to him, "the largest latitude should be given to the applicant," he may make the very obvious reply - "the man who writes a passage can not judge whether it is clear so well as the man who reads it." A writer does not always know what his words will mean to another man, and they may not convey his real intent. In New York State, a century ago a deed conveying land had to be submitted to a magistrate for him to append a certificate to the effect "I have examined the above deed, and do appro it for record." An odious censorship some might say, but it probably ensured a valid deed, and defined the right of the grantee and those holding under him. Our responsibility is quite similar, but a thousand people may be interested in each application that leaves our hands for the Issue Division.

Not one in a hundred of the patented cases ever reaches the courts, but every patent is read by many people whose time is wasted if we have passed a description which is not clear, concise, and exact.

In trying to find the limits of necessary or allowable criticism one limit is easily fixed - the standard of specification writing must not be set too high to be reached by thousands of inventors or their attorneys with a little help, and by hundreds of Examiners who have specialized in lines other than English prose composition.

It is clearly within proper limits to object to incorrect, ambiguous or misleading words, terms, or phrases; and where an art has recognized technical terms their use should be required. There is no better brief characterization of a science than - a body of systematic knowledge having an accurate nomenclature; and any man responsible for using or for permitting the use with a broader or different meaning of terms having an established specific technical meaning in an art, shows a lack of the scientific spirit

The limits are not so well defined regarding criticisms for clerical errors and lack of clearness; short-hand and rapid typewriting are responsible for many slips that any applicant would want to correct; rapid dictation produces wonderful, long passages whose beginning is forgotten before the period is reached; these of course should be broken up; sentences are sometimes incomplete and grammatical errors occur; proper punctuation, paragraphing, and hyphens to make compound words are often needed, for they are great aids to clearness. Although the

Government Printing Office has published a seventy-page book of rules for the printing of patent specifications which prescribes minutely punctuation, paragraphing, abbreviations, and the spelling of hundreds of words, this editorial revision is not supposed to change the sense of a passage, and many serts of errors can never be corrected bo it.

Robinson says (II, p. 77):

> The description ought to be confined to three points; Attributes, Manner of Making, Mode of Use. Whatever matters of narration or assertion pass beyond these limits are surplusages and are at least unnecessary and objectionable. It is sufficient for persons skilled in the art, when construed as a whole. Description of each one of its three subject-matte must be correct, complete, and intelligible (page 87). Description may not be intelligible, either because of its undue brevity or its excessive prolixity or the strangeness of its words or the confused arrangement of its sentences (page 91). If experiment or inventive skill on the part of the user is necessary the description isfatally ambiguous.

In view of the constant argument that the courts have sustained objectionable claims Commissioner Marble's statement must be remembered:

> "The fact that the courts will sustain patents in order to protect the rights of parties or that patents have been improperly issued, furnishes no Rule of action for this Office."
> 20 O.G., 1893.

But the courts do not always overlook defects; one judge says:

> "A very large part of the record consists of arguments in the form of depositions upon the true construction of Root's specification, and its sufficiency. They are able arguments; but a few lines of specification would have been worth them all." Root vs. Lamb, C.D., 1881, p. 191.

Examine now the various parts of the specification. The drawings may be criticized, first as to their sufficiency; the rules are explicit that they shall illustrate every feature claimed, and a decision requires that modifications or features described must be shown; on the other hand, the filing of an excessive number of sheets is an imposition on the applicant and the office. On the drawings, it is in accordance with the best practice to have the section lines numbered to agree with the figures; to have numerals used instead of letters where there are many of them, and to have them come in strict order in the description and consecutively except for a break where the description passes from one part of a machine to another. Where letters are preferred, to avoid confusion there should not be used both capitals and small forms os c,o,v,x,y,z, and others that are nearly alike, and in musical cases, A to G should not be used for reference characters. Sometimes the characters are so irregular that a new specification and changes on the drawing are necessary. In one case having a very inconvenient though systematic notation, the Examiner was directed by the Commissioner to write the attorney that any future cases with such notation would be returned

Where a machine is at all complicated it is sometimes very helpful to have a diagrammatic figure, and arrows to show the directions of motion, and words defining parts or their location; often it is almost essential to have the work shown in its relation to the machine. In electrical cases, care should be taken to have as few crosses of conductors as possible; the distinction between branch-circuits and their common part should be clear; and the diagrams should not be mixed up with structure; a large share of the drawings of electrical musical instruments are defective in these respents when filed. Any unusual or striking feature on the drawing should be fully described.

Ashort title is required by the statute, though the word "short" is omitted in the Rules. Commissioner Simonds decision in Ex parte Nikola (C.D., 1891, p. 215), sustained the Examiner in objecting to an inaccurate title. The title should indicate the art, and preferably be rather specific; where there is a suitable trade name or office sub-class name it should be used. Any one who has ever tried to use the court set of patents furnished to various cities knows that the present annual indexes are almost worthless, since so large a proportion of the titles are unsuitable for indexing. For many years the Examiner was allowed to give an appropriate title when sending a case to issue, but this is no longer permitted.

The statement of invention should naturally give the reader a hint as to the special feature or improvement to be considered; it should show him in which direction to look. But very often it is a mass of verbiage without a single clear or useful idea - a bungling attempt to comply with the unfortunately worded requirement to state the "object and nature of the

Where the description is long or complicated there should be at the beginning of each paragraph, a reference to the necessary figures; sometimes it is desirable to divide the matter into sections with center or side headings. It is generally clearer to have a straight-forward description of one form of the machine and its operation, to be followed by the modifications and the enlarging clauses; for it is annoying to find such clauses scattered in every paragraph.

It may be worth while to note some common more or less objectionable expressions:

> "Associated" is indefinite and applies to articles on a shelf as well as to parts in a machine.
>
> "Correlated" would probably be unintelligible to the skilled workman by whose intelligence we are taught to test the disclosure.
>
> "Cam" for a wedge; "plane" in which a solid body lies or moves, "series" for two; "a number", when more than one is meant; "lever" for arm; "tension" for pressure or stress"; "interlocking" for locking; "perpendicular" for vertical; "in unison" for simultaneously; "circuit" for a wire or part of a circuit; "between each"; "to progress" something; "to ebgage" x with y; "invention contemplates", although contemplation is the act of a mind. "Acceleration" is rarely used with its definite physical meaning.

The human body furnishes to the hard-pressed writer several more or less apt terms, as arm, finger, ear, nore, foot, etc.; but the recent discovery of a nose on a heel would startle an anatomist.

In the claims of course greater precision is needed and one must often object to such words as "designed", since it refers to a mental act, not to structure; "suitable" which is superfluous, for no one wants an unsuitable feature; "and" is often confusing, especially before "which" and before successive elements of a claim except the last one; "permit" is generally indefinite, for everything permits which does not prevent; "horizontal" is usually an idle limitation while "horizontally arranged" is often prolix and uncertain. "Member" or "portion" or "element" after a noun, as "cam" should usually be canceled, for it suggests only a fraction of the cam; "actuating means for the shaft" is ambiguous; "said" following "the" is, as Rogers (p. 96) says, generally unnecessary or tautological. Distributive words like "each", "corresponding", "respectively", are very often used indefinitely or ungrammatically. Time-clauses beginning "when" or "during" are often no more structural limitations than "when the clock strikes ten" would be.

In recent patents are to be found "material distance", "apportionate", "in combination with x of y", I claim "to x,y,z," etc.

The word "adapted" covers more loose thinking and makes more trouble than any other word, though occasionally it is the best word for the place, where the parts are actually in combination it is mere surplusage to say they are adapted to join incombination; in suc cases, the participial form is better than the infinite - as "engaging", rather than "adapted to engage", in Brown vs. Deere (61 F.R., 972), the Circuit Court of Appeals in holding a claim invalid, said "adapted to cooperate with" certain parts named was not synonymous with "combined with".

Preambles to claims beginning "in a m chine", give much trouble. Commissioner Duell said in Ex parte Casler (1899):

> "Under the court decisions the introductory phrase is not an element of the combination and does not limit the claim to such apparatus".

Commissioner Allen held in Ex Parte Gally (19C8), that after the phrase "in a mechanism for moving self-playing music sheets" was prefixed, the claim was still for a mechanical movement and not for a combination of elements in a musical instrument. Yet neither Commissioner changed the example in the Rule-book, in which three out of four claims have the clause "in", etc. Probably a quarter of the claims printed in the Gazette, have the superfluous or deceptive phrase.

The use of singulars and plurals is often inconsistent either grammatically or logically; if one claims a plurality of X's and a Y cooperating with each X, whereas there is an equal plurality of Y's, then the claim is wrong and misleading and all the X's except one are idle elements.

Since a claim is not a complete sentence but is the object of the verb "claim", confusion sometimes arises where participles are used; thus "in a machine having X,Y,Z, etc.",it is grammatically uncertain whether Y and Z are objects of the nearer verb "having" or the remoter one "claim". Such a claim may be treated as only a preamble; a recent Gazette has three patents with such claims which escaped attention.

The use of "means" defined by a

function is too well established to need discussion even if the "means" includes several parts; but it may be noted that the recent decision in Lacroix vs. Tyberg, which restated this doctrine, was not due to any incorrect ruling of an Examiner. This doctrine, however, would not justify claiming a means serving two functions, where there are two devices and not a single unitary one; for instance, means for steering an auto and lighting the road.

It seems surprisingly difficult for some men to see the difference between a broad claim and a nebulous one; often a claim may be made clear and allowable by merely canceling an obscure clause, either functional or structural, even though it is thereby broadened.

The requirement that an applicant shall "distinctly claim . . . his invention" is glaringly violated constantly, first by prolix claims to which the Iagan decision (162 O.G., 538), applies; and second by an excessive number of claims; Commissioners and Judges have condemned such cases, but the only method of treating them furnished by Rules or decisions is by rejection under conditions that are so laborious as practically to leave the applicant full license to confuse the public. The words of Senator Christiancy some years ago apply here:

> "The very frequency of the abuse takes away the Commissioner's power of correcting it, and the greater the necessity for the correction becomes, the less is hiw power of correction."

A scale of fees graduated somewhat in proportion to the expense thrown on the Office and the difficulties put in the way of the public may be needed to reduce the evil.

When the Examiner has gone through the case, and noted all the objectionable passages, he has to decide which of them should be formally objected to and how the matter is to be put up to the applicant; at this point personal equation and acquaintance with the attorneys count perhaps for more than anywhere else in office work; there are attorneys who welcome any assistance in putting a case in better shape and the briefest suggestion is enough; there are others who will respond only to a formal often-repeated requirement; who seem to care more for their words than for the protection secured; sich men abuse the favor offered by Rule 64. Between these two classes are many who take the easiest way, and respond promptly to the objections. It is not a pleasant thing for anybody concerned to have a long letter full of criticisms in the file; sometimes this may be avoided by an oral suggestion that the case with Examiner's pencilings be looked over in the attorney's room; or by some general statement in a letter; e.g., this case needs thorough revision to correct obvious clerical errors and unusual terms.

One applicant's attitude of antagonism was changed on receipt of a letter directed by the Primary Examiner reading "the proposed changes were thought to be in applicant's interest, but as the Examiner will not have to defend the case in court, he need not insist on the objections."

It seems unnecessary in the first letter to make the objections in the way of

a formal requirement; the phrase "should be changed" or "the following change is suggested" is perhaps more likely to bring the desired correction than "it is required", further, a page may be clearer at 10 o'clock than at 4, and it is much easier to waive such an objection on a change of view or for reasons shown, or when the case is otherwise ready for issue; the second action will be soon enough to make a positive requirement. Other common forms of objections are: "the usual name for this part is", "preferably it should be called", "authority should be cited for this use of the word", "the word is not found in the dictionary", "the theory is believed to be unsound; certainly, it is not proved and it is unnecessary"; "this word is inapt or ambiguous or misleading throughout the case", "this passage is repetitious or obscure or does not assist in the disclosure of the invention or seems to be inconsistent with another or with the drawing"; "the case will be improved by canceling or changing" so and so.

In a case badly presented it may be well for the Examiner to write compactly his understanding of the construction or operation and call on applicant to make substantially that statement, if it is correct. Where there is uncertainty as to an amended passage it is best to call for a statement of how the passage should read. It will often be necessary to call on applicant to identify some elements of a claim by reference characters in a letter (not in the claim).

In a long claim covering several groups of elements it is often helpful to separate the groups by semicolons or to indicate the groups by (a) (b) (c), etc. Where one finds difficulty in describing a structure correctly in broad terms it may be suggested to him to draw a very accurate specific claim and then broaden it element by element.

Some of the familiar decisions may be recalled here, such as:

> "The preamble is not a limitation; an applicant may select his terms; a description of the operation should be added; the philosophy of an operation is not necessary; laudatory or derogatory statements, advertising, and theoretical matter, the history of the art, a catalogue of examples, the principles of law, unnecessary description and illustration and a statement of invention which is only a restatement of the claim should be positively claimed. No ambiguous or useless word or phrase ought ever to be allowed in a claim.

The following words or expressions have been permitted by decisions:

> "Preferably" (inserted by amendment); "Make and break a toggle"; "Filament"; "Outlet"; but not "opening"; "Stretcher"; "Means for marking", used of a stencil; "V-shaped"; "Longitudinally convexly curved"; "Or the like" in the preamble and "differential gear" in the claims.

In the MS. decisions of the last twelve or fifteen months the following are found:

> One, requiring a sheet of drawing to be cancelled and two, overruling the requirement;
>
> Two, refusing entry of a substitute specification.
>
> A requirement to limit number of sheets of drawings was overruled.

"While the Examiner has probably unnecessarily scolded the applicant, he has not gone beyond the bounds of propriety sufficiently to warrant the unusual action of canceling the paragraph objected to, and the petition must therefore be denied."

"The objections which the Examiner has taken to the specification . . . see to me to be well taken excepting" certain of them.

"Claim 6 should have been rejected on the ground that the structure specified therein was not properly shown or the claim properly illustrated or the obscure feature properly described".

"This case has been pending a long time, and it would be to the interest of the public to pass it to issue".

"The Examiner wrote a letter making certain objections which on examination are found to be crude, to lack elucidation and to be at least partially erroneous." . . . "The office actions have not come up to the standard in these respects".

"The balls seem to be sufficiently positively included in claim 2, to warrant the allowance of this claim in its present condition and the petition is granted".

"There is no provision in the Rules for a request that the Examiner state why x and y are the same; applicant should point out wherein his claim avoids the reference instead of asking such questions."

> "Applicant's specification is verbose and many of the phrases used by him are unintelligible, being apparently coined by applicant. . . . Examiner objected to specification as verbose and containing inapt words and phrases and required that it should be rewritten in condensed form, and with the use of terms common in the art to which it appertains. . . . The specification should be couched in ordinary language and coined terms should not be used where it is possible to define the invention in ordinary language. Such terms as those only render the specification confused and indefinite".

October 22, 1914.

14

Composition of Matter

by

A.M. Lewers,
Principal Examiner, Division Six
U.S. Patent Office

Oct. 29, 1914.

Journal of the Patent Office Society

Vol 4 No. 11 Page 530

Paper No. 14

15

Certain Phases of Reissues

by

L.D. Underwood,
Principal Examiner, Division Seven
U.S. Patent Office

Nov. 5, 1914.

Journal of the Patent Office Society
Vol. 4 No. 12 Page 564

Paper No. 15

15

Certain Phases of Reissues

Particularly
Delay in Filing the Application, and Inadvertence, Accident or Mistake

A paper read November [illegible] before the Examining Corps of the United States Patent Office

By

L. D. UNDERWOOD,
(Principal Examiner, Division [illegible])
U. S. Patent Office.

Washington, D. C.
[illegible]

BRIEF OF POINTS.

The first reissue statute was passed in 1832.

Prior to that time, reissues were granted, and they were upheld by the Supreme Court in Grant *vs.* Raymond.

Up to about 1882, the practice was extremely liberal, allowing a reissue of a patent practically at any time during its life, for anything which might have been claimed in the original, and sometimes even for more than was disclosed.

This resulted in great hardships to manufacturers.

To correct these evils the Supreme Court, in the case of Miller *vs.* Brass Co. (decided in 1882), laid down the doctrine of laches.

This doctrine was founded upon the theory that the statute did not in terms, provide for enlarged reissues. A change in the rules immediately followed requiring the applicant to file an oath setting forth what the errors were which constituted the inadvertence, accident, or mistake, and how they arose or occurred.

Where the claims are restricted delay may be disregarded, unless the delay occurred after the defect was discovered.

"Inadvertence, accident, or mistake," is used in antithesis to fraudulent intent, and comprehends every error by which the patent fails to give the protection which it should have given.

Claims may be broadened by reissue filed within two years, where there has been a clear error, which may consist merely of want of knowledge or attention, experience, or capacity on the part of the solicitor or the applicant.

After two years each case must be governed by its special facts and circumstances.

Certain Phases of Reissues, Particularly Delay in Filing the Application, and Inadvertence, Accident, or Mistake.

By
L. D. UNDERWOOD,
Principal Examiner, Division 7,
U. S. Patent Office.

REISSUES BEFORE THE FIRST REISSUE STATUTE.

In the foundation of our Government it was deemed conducive to the progress of its people that a monopoly for a limited time be granted to the inventors or discoverers of new and useful inventions. In conformity with the Constitutional provision the first patent statute was enacted in 1790 authorizing the Secretary of State, or the Secretary of War, or the Attorney-General, to cause letters patent to be made out in the name of the United States, it being required that such letters patent be attested by the President of the United States, and certified by the Attorney-General upon his finding that the grant had been made in conformity with the act.

It was obviously the purpose of the law to protect inventors for the actual invention disclosed, for clearly it would be a miscarriage of justice should the public be given the benefit of the inventor's disclosure without at the same time securing to him a monopoly of the invention for the period set out in the statute, which originally was fourteen years. But it sometimes happened that a patent, while disclosing the invention fully to the public, failed for some reason to protect the inventor in his exclusive rights. It was then a serious question how the rights of the inventor could be secured as there was at first no authority given in the statute to amend or correct an imperfect patent. Notwithstanding the failure of the statute to give any express authority in this regard patents were frequently reissued with a view to giving to the inventor the protection which it was intended that the original patent should give. Reissues were at first granted by the Secretary of State. The right to reissue came before the Supreme Court for the first time in January, 1832, and the power to grant reissues was considered. The objection was raised that the Secretary of State was merely a ministerial officer and could exercise no power not expressly given. On this point, the court, speaking through Chief Justice Marshall, said:

> It is undoubtedly true, that the Secretary of State may be considered, in issuing patents, as a ministerial officer. If the prerequisites of the law be complied with, he can exercise no judgment on the question whether the patent shall be issued. It is equally true that the act of Congress contains no words which expressly authorize the secretary to issue a corrected patent, if the original, from some mistake or inadvertence in the patentee, should be found incompetent to secure the reward which the law intended to confer on him for his invention. The force of this objection, and of the argument founded on it is felt. If the new patent can be sustained, it must be on the general spirit and object of the law, not on its letter.

The opinion then points out that a law for the protection of inventors was one of the first passed by Congress, and that it was the purpose of that law to confer on them an exclusive right to their inventions for a definite period as a compensation for their exertions and the disclosure of the invention to the public. The law should be construed, the court said, so as—

> to execute the contract fairly on the part of the United States, where the full benefit has been actually received, if this can be done without transcending the intention of the statute, or countenancing acts which are fraudulent or may prove mischievous. The public yields nothing which it has not agreed to yield; it receives all which it has contracted to receive. The full

> benefit of the discovery, after its enjoyment by the discoverer for fourteen years, is preserved; and for his exclusive enjoyment of it during that time, the public faith is pledged. That sense of justice and of right which all feel, pleads strongly against depriving the inventor of the compensation thus solemnly promised, because he has committed an inadvertent or innocent mistake.
>
> If the mistake should be committed in the department of State, no one would say that it ought not to be corrected. All would admit that a new patent, correcting the eror, and which would secure to the patentee the benefits which the law intended to secure, ought to be issued. And yet the act does not in terms authorize a new patent, even in this case. Its emanation is not founded on the words of the law, but it is indispensably necessary to the faithful execution of the solemn promise made by the United States. Why should not the same step be taken for the same purpose, if the mistake has been innocently committed by the inventor himself? Grant *vs.* Raymond, 6 Peters, 218-240.

The decision held the reissue valid notwithstanding the absence of statutory authority to grant it.

STATUTORY PROVISIONS.

This decision was rendered in January, 1832. On July 3, 1832, the first resissue statute was enacted which provided "that whenever any patent which has been heretofore, or shall be hereafter, granted . . . shall be invalid or inoperative, by reason that any of the terms or conditions prescribed in the third section" of the act of 1793 "have not, by inadvertence, accident, or mistake, and without any fraudulent or deceptive intentions been complied with on the part of the said inventor, it shall be lawful for the Secretary of State, upon the surrender to him of such patent, to cause a new patent to be granted to the said inventor for the same invention for the residue of the period then unexpired." This act also gave the right of reissue to his assignees. In the law of 1836, the provision for reissues is found in section 13, which provided that reissues should be granted whenever a patent was inoperative or invalid "by reason of a defective or insufficient description or specification, or by reason of the patentee claiming in his specification as his own invention, more than he had a right to claim as new, if the error has, or shall have arisen by inadvertency, accident or mistake, and without any fraudulent or deceptive intention." The portion of the act of 1836 quoted is in substantially the same words as section 4916, Rev. St.—the present reissue statute.

Although the statute as it stands today is essentially the same as the statute of 1836, the practice was considerably modified from time to time, changes being brought about by judicial interpretation. Let us look at the development of the practice and the reasons therefor.

PRACTICE UNDER THE STATUTE CHARACTERIZED BY GREAT LIBERALITY—CAUSES AND RESULTS.

Reissues were always granted for the purpose of securing to the inventor the real invention which he sought originally to protect, when the original patent failed to give adequate protection through some inadvertence, accident, or mistake, and without any fraudulent or deceptive intention. In the early practice all that was necessary to establish inoperativeness or invalidity, and inadvertence, accident, or mistake, and absence of fraudulent intent was the affidavit of the inventor or assignee to that general effect. It was not necessary to make any statement, under oath or otherwise, showing in what respect the original patent was defective, what the errors were, or how they arose or occurred. The first provision in the rules requiring the applicant for reissue to specify the defects in the original patent and the errors which occasioned them occurs in Rule 46 of the Rules of September 1, 1863, which provided that "all applications for reissue must be accompanied by a statement clearly setting forth in what respect the original specification is inoperative or invalid, and what inadvertency, accident, or mistake occurred, that the office may have the means of determining whether it was without any fraudulent intent." This was omitted in the next edition of the Rules of January 1, 1865, and a similar provision was not made until 1882.

The demand for the restriction of reissue was widespread but the remedy was not obvious. In 1876, a prominent attorney of Philadelphia—Mr. Howson—suggested that every applicant for reissue be required to "file a paper setting forth in full and explicit terms wherein consists the error, inadvertence, or mistake contained in the oiginal patent which he desires to correct by reissue. If language is introduced which does not appear in the original patent, he must state why he introduced it, and whether it is based on the model, drawing, or specification. If new functions, which do not appear to have been contemplated in the original patent, are given in the new specification, a full explanation will be demanded from the applicant, tending to show the accuracies of the new assertions, and when expanded claims are asked, he must state the ground on which they are based." This suggestion however was not adopted.

Rule 86 of the Rules published September 1, 1880, provided that "the affidavit of the applicant will be prima facie evidence as to inadvertency, accident, mistake, fraud, and deceptive intent, subject to contradiction or confirmation by the records of the office, by the affidavit of employees of the office having personal knowledge of the facts, or by such other affidavits as the Commissioner shall, without disclosing the pendency of the application, admit as evidence in the case."

In the next edition of the Rules published April 15, 1882, a decided step was taken toward restricting reissues by requiring that the applicant set forth particularly the defects or insufficiencies in the specification which rendered the patent inoperative or invalid, that he explain how the errors arose in order that the question of inadvertence, accident, or mistake might be determined, and make oath that such errors arose without fraudulent intent. It was afterward required (Rules of

Practice, November 16, 1885), that all these allegations be made under oath. The practice in this respect is now covered by Rule 87 which was recently held valid by the Court of Appeals of the District of Columbia, in Fullagar, 192 O. G., 1263; 40 App. D. C., 510. The purpose of requiring a statement of the particular errors and how they arose or occurred was evidently to bring out on the record all the facts in order that the office could judge whether the alleged mistake was a *bona fide* mistake, or a deliberate act inconsistent with applicant's allegation. This requirement has an analogy in the requirement of Rule 75, that an affidavit filed thereunder shall state "facts" as distinguished from the conclusion of the affiant. In both cases, the purpose is to substitute the judgment of the officers who are charged with the duty to administer the law for the conclusion of another. Since 1885, the practice on this point has not materially changed.

From the facts stated it is apparent that the early requirements as to the showing of defects in the original claims and the mistakes which caused them were so easily complied with that, until 1882, they offered practically no obstacle to the reissue of any patent with either restricted or broadened claims.

Another matter which caused some difficulty in the development of the law involved the relation between the inventions covered by the original and reissued patents. It was always the purpose to restrict the invention covered by the reissue to the invention which the original patent was intended to protect. But views varied as to the right of the inventor to amend his specification, drawings, and model, or to add to the disclosure in the reissue application matter which the inventor intended to include in the original description, drawings, or model, but which he failed to include through some inadvertence. It was the established practice for many years to permit the inventor to include in the reissue anything which he might have included in the original. Hence he could amend the description by the drawings or the model, or the model and drawings each by the other, but he could not amend the model and drawings by the description except in a clear case, the description being considered as uncertain.

Rule 54, of the Rules of February 20, 1854, stated that "the general rule is, that whatever is really embraced in the original invention, and so described or shown that it might have been included in the original may be claimed in a reissue, but in case of machine, model and drawings must be amended each by the other; but when there is neither model nor drawings amendments may be made upon proof satisfactory to the Commissioner that such new matter was a part of the original invention and was omitted through inadvertence. The Rules of Practice of July 15, 1870, provided that "anything which might have been included in the original may be claimed in a reissue."

For a time prior to this it was the practice to permit the inclusion in a reissue of inventions not disclosed in the specification, drawings, or model on sufficient proof that such invention was a part of the original invention. This practice resulted from an extremely liberal interpretation of the statute to the effect that the inadvertence, accident, or mistake referred to inadvertence in a failure to disclose the invention rather than a failure to point out the invention so as to distinguish the old from what was claimed as new. It was soon decided however that this was illegal (Carhart *vs.* Austin, 2 Fisher, 543; Goodyear *vs.* Providence Rubber Co., 2 Fisher, 499; Sickles *vs.* Falls Co., 2 Fisher, 202), and that the reissue must be restricted to matter disclosed in the original patent. This dangerous tendency to claim even more than was disclosed in the original was definitely checked by the provision of Section 53 of the act of 1870, which provided that "no new matter shall be introduced into the specification, nor in case of a machine patent shall the model or drawings be amended, except each by the other." It is to be noted however, that the present reissue statute still permits the insertion of matter not originally included in cases where there is no drawings or model, upon proof satisfactory to the Commissioner that such new matter or amendment was a part of the original invention and was omitted from the specification by inadvertence, accident, or mistake."

Another reason for the early liberal practice on the granting of reissues was the fact that the doctrine of laches in the filing of the application had not yet been evolved. No statute that has ever been passed relating to reissues has made diligence a condition precedent to the grant. The statute gave the right of reissue to one who had inadvertently failed to secure the protection to which he was entitled. It was assumed that it was the intention to secure to the inventor what he should have secured in taking out the original patent even though a correction of the error long after the publication of the patent, and the public use of the invention, might work some hardship on the public. Therefore it appears that the length of time intervening between the grant of the original patent and the filing of the reissue application was not considered. Reissues broadening a patent were granted but a short time before its expiration. An instance of the length to which the practice went is found in the decision of the Supreme Court in the case of Gage *vs.* Herring, 22 O. G., 2119; 107 U. S., 640, involving reissue patent, 4712. The original patent, if its term had not been extended, would have expired on April 20, 1872. In December, 1871, four months before the time of expiration, a reissue was applied for (this being the second reissue), adding a claim to the single prior claim, which broadened the scope of the patent by omitting from the new claim two of the seven elements before claimed. The oath simply averred that the petitioner "verily believes that, by reason of an insufficient and defective specification, his aforesaid letters patent (the first reissue) are inoperative or invalid; that the said error (no error was stated) had arisen from inadvertence, accident, or mistake, and without any fraudulent intention, to the best of his knowledge or belief." The reissue was granted in less than a month without objection or comment.

On account of the extreme liberality of the practice upon the identity of the invention, showing of inadvertence, accident, or mistake, and the time within which reissues might be granted, a reissue was resorted to very frequently. In 1863, the number of reissues granted was 6 per cent of the total; in 1870, it was 3½ per cent. Comparing these figures with a percentage of .24 for 1895, it is found that the percentage of reissues of 1863 bear to the reissues of 1895, the proportion of 25 to 1. Furthermore, the patents reissued were those of most importance in the arts and industries. The evils resulting from this liberal policy were observed and commented upon, although it is due to the Patent Office to say that its policy was directed by the law and the decisions of the courts, and it could not materially restrict the right of reissue as it had always been recognized without assuming an arbitrary power.

On this point a prominent patent attorney in 1882 said:

> Although the Patent Office may, in some instances, be directly responsible for the grant of outrageous reissued patents, it would be unjust to charge that bureau with the evils resulting from the prevailing latitude in acting on this class of cases, and the permission given patentees to absorb by reissue, the inventions of others.
>
> Many expanded reissued patents of doubtful character have been sustained by the courts, while many others have been slaughtered.
>
> The treatment of reissued and expanded patents by the courts has not been uniform, and in the light of apparently conflicting judicial opinions, the office has been unable to draw a well-defined line for the guidance of Examiners in their consideration of reissue applications.
>
> The understanding and opinions of Examiners naturally enough differed on the subject, and the consequence of all this has been the long continuance of a system of so-called liberality in the grant of reissued patents with enlarged claims.

The Supreme Court graudually developed a strong antagonism to enlarged reissued patents.

In 1879, in the case of Leggett *vs.* Avery, 17 O. G., 445; 101 U. S., 256, commenting on a patent granted on October 9, 1860, surrendered and reissued on June 22, 1869, extended for seven years from October 9, 1874, and again reissued on November 10, 1874, it said:

> The pretense that the error had arisen by inadvertence, accident, or mistake, within the meaning of the patent law, was too bald for human credence. . . .
>
> The allowance of claims once formally abandoned by the applicant in order to get his patent

> through is the occasion of immense frauds against the public. It not unfrequently happens that after an application has been carefully examined and compared with previous inventions, and after the claims which such an examination renders admissible have been settled with the acquiescence of the applicant, he, or his assignee, when the investigation is forgotten and perhaps new officers have been appointed, comes back to the Patent Office, and under the pretense of inadvertence and mistake in the first specification gets inserted into a reissued patent all that had been previously rejected. In this manner, without an appeal, he gets the first decision of the office reversed, steals a march on the public, and on those who before opposed his pretensions (if, indeed, the latter have not been silenced by purchase), and procures a valuable monopoly to which he has not the slightest title.

General Leggett made the following comment:

> "In these reissues more deviltry—if I may be permitted to use the phrase—creeps into the practice of patent law, than everything else put together."

EVILS AND REMEDIES THEREFOR.

What were these evils which gave so much concern to the Patent Office and the courts?

Generally stated it was the withdrawal of rights which mechanics and manufacturers had exercised for years, not in favor of the real inventor or the one who had done most to advance the sciences and useful arts, but in favor of a mere speculator who had never done anything but conceive of a way in which an apparently worthless patent might be expanded into one of far-reaching importance. The practice which prevailed is quite fully set forth in a pamphlet written by Mr. H. Howson, of Philadelphia, published in 1877, when discussions relating to proposed patent legislation took place before the Senate Committee on Patents. He said:

> "A patent, or series of patents, relating to some special branch of industry, has been obtained, and capital has been invested in the manufacture of the patented articles. Now in these days, the simplest objects of every-day use can not be economically manufactured without an outlay for machinery and appliances, and for carrying into effect a proper system of division of labor; the public demands not only new things but better things and cheaper things, and this demand can only be supplied by patents, and by the capital which patents invite. The remarkably cheap products of our workshops at the Centennial Exhibition were matters of surprise and astonishment to our visitors from abroad, where labor is much less expensive than in our own country.
>
> "The factory, based on patents, is in full and successful operation, the proprietor is receiving a fair interest for the capital invested, and the public has the benefit of cheaper and better articles in return for the protection afforded by the Government in the shape of patents.
>
> "The success of the establishment can not remain a secret, and it attracts the attention of a patent speculator, whose first move is to try to get hold of some patent preceding those which are owned by the proprietors of the establishment. Failing in discovering a patent to exactly meet the case, he takes an excursion to Washington, probably takes the advice of a solicitor there, to whom he explains what he wants, and together they go on a hunting expedition through the records and model halls, until they find some model of a patent which they think can be doctored by reissue to resemble a subsequent prominent patent of the manufacturer. The model has, perhaps, long since been almost forgotten by the inventor himself, and has remained on the shelves of the model room without attracting any notice. By cunning manoeuvres,

> the patent to which the model appertains is purchased from the owner, perhaps for a mere song, and then commences the operation of reissuing; the attorney has the copy of the recently discovered patent before him, and also a copy of that for the coveted machine of the successful manufacturer, and he is told that he must reissue the first patent so as to cover, or, to use a common phrase, wipe out the second.
>
> "The most ingenious devices are adopted to bring this about,—the attorney receives high fees, and the Examiner is cajoled by all sorts of assertions into allowing claims which may appear to be innocent enough.
>
> "The reissued patent is shown to the manufacturer, and he may be induced to purchase it for a large sume in order to avoid expensive litigation. Now this money is taken from the public to enrich the speculator, the non-producer, for, to make up for the withdrawal of capital, the price of the product is increased. Perhaps the manufacturer resists the demand made on him, costly litigation ensues, and the public and manufacturer suffer for the benefit of the owner of the reissued patent.
>
> "The evil wrought by this system is incalculable; it not only disturbs the economy of manufacture, but brings disgrace on the whole patent system. A reissue of this character can not promote the progress of the useful arts, it must necessarily obstruct that progress."

There are scores of instances in which patents were issued, reissued, and re-reissued to keep pace with "the progress of the arts as developed by time and experience." In one instance, a patent was granted with a single, modest, and harmless claim; in the branch of industry to which it related, several valuable improvements were made, the patent was reissued to absorb these improvements, again reissued to cover other improvements, and again reissued, until at last, the little patent with a specification of 450 words and a single claim was converted into two patents with 8,000 words and seventeen claims.

Remedies to correct these evils were suggested and attempted from time to time. Fomerly the owner of the entire interest in a patent could reissue it without the knowledge or assent of the inventor; but since the act of 1870, the inventor if alive, must make the application. This remedy however, had little effect as it was generally an easy matter, by misrepresentation or through the intervention of emissaries, to obtain the signature of the inventor, who was kept in the dark as to the scope and object of the reissue.

In his report of 1871, Commissioner Legget suggested that the law should be so amended as to require that a notice of all applications seeking enlarged claims be published in the Official Gazette, for at least four weeks previous to the day set for examining the same, and that opposition be allowed as in extension cases. It was also suggested that there should be no reissue of a patent after it had been in existence for more than two years.

THE DOCTRINE OF DELAY OR LACHES.

Without any change in the law, however, the Supreme Court found a remedy in the doctrine of laches in filing the application. This doctrine was laid down in the case of Miller *vs.* The Bridgeport Brass Co., reported in 104 U. S., 350; 21 O. G., 201. The decision is dated January 9, 1882. The facts in that case are briefly set forth in the decision as follows:

> "The original patent described a combination of devices, amongst other things, *two* domes or reflectors, one above the other, elevated above a perforated cap through which a wick tube and vapor tube ascended.
>
> "It was claimed that this combination of devices, especially including the two domes, which admitted the external air between them for producing a more perfect combustion, would make a lamp, which, *without a chimney,* and without danger of explosion, would burn those hydrocarbons which are volatile and contain an excess

> of carbon. The invention proved a failure, but it was found that *the use of one of the domes* (and the other parts) *with the restoration of the chimney*, would be a real improvement, and both plaintiff *and defendant* made such lamps in large quantities. *Fifteen years after the original patent was granted*, the patentee (or rather his assignee) discovers that the improved lamp was really a part of his original invention, and that by inadvertence and mistake he had omitted to claim it.
>
> "Upon this state of facts, the court said: 'We think, that the court below was clearly right in holding that the invention specified in the second claim of the reissued patent (the one in question) is *not* the same invention described and *claimed* in the original patent.' "

The court might have rested its decision on their conclusion that the reissued patent was not for the same invention as the original. Or they might have rested the decision on the finding of no inadvertency, accident, or mistake, for the opinion says:

> "But there is another grave objection to the validity of the reissued patent in this case. It is manifest on the face of the patent when compared with the original, that the suggestion of inadvertence and mistake was a mere pretense."

But the court proceeds to say:

> "Or if not a pretense, *the mistake was so obvious as to be instantly discoverable* on opening the letters patent, *and the right to have it corrected was abandoned and lost by unreasonable delay. The only mistake suggested is, that the claim was not as broad as it might have been.* THIS MISTAKE, IF IT WAS A MISTAKE, WAS APPARENT UPON THE FIRST INSPECTION OF THE PATENT, AND IF ANY CORRECTION WAS DESIRED, IT SHOULD HAVE BEEN APPLIED FOR IMMEDIATELY.
>
> "These *afterthoughts, developed by the subsequent course of improvement*, and intended, by an ex-

pansion of claims, to sweep into one net all the appliances necessary to monopolize a profitable manufacture, are obnoxious to grave animadversion.

"If a patentee who has no corrections to suggest in his specification except to make his claim broader and more comprehensive, *uses due diligence in returning to the Patent Office*, and says, 'I omitted this,' or 'my solicitor did not understand that,' his application may be entertained, *and on a proper showing*, correction may be made.

"But it must be remembered that the claim of a specific device or combination, and an omission to claim other devices or combinations apparent on the face of the patent, ARE IN LAW A DEDICATION TO THE PUBLIC OF THAT WHICH IS NOT CLAIMED.

"*It is a declaration that that which is not claimed is either not the patentee's invention, or, if his, he dedicates it to the public.* This legal effect of the patent can not be revoked unless the patentee surrenders it and *proves* that the specification was framed by real inadvertence, accident, or mistake, without any fraudulent or deceptive intention on his part; *and this should be done with all due diligence and speed.* Any unnecessary laches or delay in a matter thus apparent on the record, affects the right to alter or reissue the patent for such causes. If two years' public enjoyment of an invention with the consent and allowance of the inventor, is evidence of abandonment, and a bar to an application for a patent, *a public disclaimer in the patent itself should be construed equally favorable to the public.* Nothing but a clear mistake, or inadvertence, and a speedy application for its correction, *is admissible where it is sought merely to enlarge the claim.*

"Now whilst, as before stated, we do not deny that a claim may be enlarged in a reissued patent, we are of opinion that this can only be done when an actual mistake occurred, not from a mere error of judgment (for that may be rectified

> by appeal); but a real, *bona fide* mistake inadvertently committed, *such as a Court of Chancery, in cases within its ordinary jurisdiction, would correct.* Reissues for the enlargement of claims should be the exception, and not the rule."

Here the Supreme Court, fifty years after its first consideration of a reissued patent and forty-six years after the enactment of the statute, gave a new force to its terms, and laid down a doctrine never before known to the patent law—that of delay and intervening rights.

FOUNDATION OF DOCTRINE OF LACHES.

The decision of the court in Miller *vs.* Brass Co., was intended to, and did, put a stop to the hardships placed upon manufacturers by the undue enlargement of patents many years after the invention covered thereby had gone into public use. Let us now look at the foundation of the doctrine as enunciated by the court. As shown by the decision itself the court found its authority for the doctrine in the general principles of the law, and in the equitable doctrine that laches may forfeit an existing right. The court reasoned in substance as follows:

That the law of 1832 provided for a reissue where there was a failure to comply with any of the terms and conditions prescribed by the law for giving a clear and exact description of the invention. That the law of 1836 enlarged the power to grant reissues by adding an additional ground for reissue, namely, that the patentee had inadvertently claimed more than he had a right to claim; that prior to this time no claim had been required to be made, and therefore that the enlargement of the claim was not in the mind of Congress when the statute was enacted; that the law in terms contemplated only a correction of the description and a restriction of the claim and not an enlargement of a restricted claim. They concluded that if the patentee was entitled to amend his patent when he had claimed too little it was only under the general terms of the law, and on principles of equity, and that in such case, equity would restrict the privilege so as to protect the public from the evils to which it had been subjected by unwarranted reissues.

Robinson, in his work published eight years after the decision of the court, maintains that the reasoning of the court is founded upon a fundamental error in assuming that the word "specification" in the phrase "defective or insufficient description or specification" did not refer to the claims; that while prior to the law of 1836, no formal claim was required, nevertheless it had been customary to make a "claim" and this part was often referred to as the "specification" of the invention; that the statute therefore did in terms provide for the correction by reissue of an error by which the patentee failed to secure sufficient protection. The learned author contends that the statute might have been interpreted as providing for an enlargement of the claims and that the doctrine of laches might have been founded as well upon the theory that delay is inconsistent with the existence of inadvertence, accident, or mistake.

If we should regard delay merely as evidence bearing on the question of inadvertence, accident, or mistake, it would result probably in a more uniform application of the doctrine of laches; but that the courts have not adopted this viewpoint is believed to be evident from their decisions made since the publication of Robinson's work. If the doctrine of laches were brought within the statutory provisions it is not seen how any distinction could be made between enlarged reissues and those which were restricted or otherwise amended. But the decision of the courts since the decision of Miller *vs.* Brass Co., make a clear distinction between broadened and narrowed reissues as will be shown later. Furthermore, the trend of the decisions bears out the conclusion that the doctrine of laches must be regarded as an equitable doctrine, and that the authority of the courts to hold a reissue invalid on account of delay in filing the application, is founded upon equitable principles and not upon the terms of the reissue statute.

As above pointed out in Miller *vs.* Brass Co., the courts looked upon the failure to claim devices or combinations apparent on the face of the patent as a dedication to the public of that which is not claimed. "It is a declaration that that which is not claimed is either not the patentee's invention, or, if his, he dedicated it to the public. The legal effect of the patent can not be revoked unless the patentee surrenders it and proves that the specification was framed by real inadvertence, accident, or mistake. . . . Nothing but a clear mistake, or inadvertence, and a speedy application for its correction, is admissible where it is sought merely to enlarge the claim." The nature of the mistake contemplated is referred to as a "*bona fide* mistake, such as a Court of Chancery, in cases within its ordinary jurisdiction, would correct."

In Topliff *vs.* Topliff, 145 U. S., 156, 59 O. G., 1257, decided ten years later, the Supreme Court, after a review of the decisions of the courts since Miller *vs.* Brass Co., stated the rule governing reissues as folllows:

> From this summary of the authorities it may be regarded as the settled rule of this court that the power to reissue may be exercised when the patent is inoperative by reason of the fact that the specification as originally drawn was defective or insufficient, or the claims were narrower than the actual invention of the patentee, provided the error has arisen from inadvertence or mistake, and the patentee is guilty of no fraud or deception; but that such reissues are subject to the following qualifications:
>
> First. That it shall be for the same invention as the original patent, as such invention appears from the specification and claims of such original.
>
> Second. That due diligence must be exercised in discovering the mistake in the original patent, and that, if it be sought for the purpose of enlarging the claim, the lapse of two years will ordinarily, though not always, be treated as evidence of an abandonment of the new matter to the public to the same extent that a failure by the inventor to apply for a patent within two years from the public use or sale of his invention is regarded by the statute as conclusive evidence of an abandonment of the patent to the public.
>
> Third. That this court will not review the decision of the Commissioner upon the question of inadvertence, accident or mistake, unless the

> error is manifest from the record; but that the question whether the application was made within a reasonable time is, in most, if not in all such cases, a question of law for the court.

Here the court reaffirmed the doctrine of Miller *vs.* Brass Co., and treated the failure to claim in the original patent as a constructive abandonment. Furthermore, in the statement that the court would not review the decision of the Commissioner upon the question of inadvertence, accident, or mistake, but that the question of delay, was one of law for the court, is implied the thought that delay can not be considered merely as evidence bearing upon inadvertence, accident, or mistake.

CONFLICT OF DECISIONS.

The questions of identity of invention, inadvertence, accident, or mistake, delay and intervening rights, have been so confused by the courts that the correct principles which shall govern the practice of the Patent Office in the granting of reissues are very difficult to determine. On these points, one may find a decision of some court to sustain almost any position which one might wish to assume. Some of the courts drew from Miller *vs.* Brass Co., the conclusion that a reissue could not enlarge the original claim; that this was wrong is indicated by the later decision in Topliff *vs.* Topliff. There is much conflict and uncertainty in the decisions upon each of these several matters.

If some of the controverted points can be settled to our satisfaction, it will aid materially in a ready disposition of the rights of reissue applicants.

RESTRICTED REISSUE—DELAY OF LITTLE CONSEQUENCE.

It seems to be fairly well settled by the best considered decisions of the courts that where it is sought merely to restrict the original patent, which is found to be too broad, delay is not of importance. The distinction between enlarged and narrowed reissues was made in the case of Miller *vs.* Brass Co., and reiterated in Topliff *vs.* Topliff. In the enunciation of the doctrine of laches, the court indicated that where it was sought to enlarge the claims greater diligence would be required than where it was sought merely to correct the description or restrict the claims. There seems to be no conflict of authority upon this point but no court has laid down any general rule. In Sirocco Engineering Co. *vs.* B. F. Sturtevant Co., 173 Fed. Rep., 378, a reissue restricting the claims was held valid although the application was filed seven years after the granting of the original patent. In Steiner & Voegtly Hardware Co. *vs.* Tabor Sash Co., 178, Fed. Rep., 831, a delay of twelve years was held not a bar where the patent was narrowed. The latest decision on this point is in the case of Motion Picture Patents Co. *vs.* Laemmle, 214 Fed. Rep., 787, in which the Edison reissue patent for motion picture machines, granted over fourteen years after the date of the original patent, was held valid. In this case, the court set forth the distinction between broadened and narrowed reissues in the following words:

> "The books are full of cases where the courts have appreciated the importance of intervening rights, and have realized the injury which may or will be done to the public where, after either an unreasonable delay or a process of experimentation with court decisions, an attempt is made to broaden claims. In such instances, industry and commercial progress may be arrested if the courts were to hold to any doctrine which made it dangerous for energetic men to enter upon some well-defined field of activity only to discover subsequently that a grant theretofore given had been enlarged beyond the limits so defined. Thus it is that there is a line of cases of which Miller *vs.* Brass Co., 104 U. S., 350, 26 L. Ed., 783, and Thomson-Houston Electric Co. *vs.* Western Electric Co., 158 Fed., 813, 86 C. C. A., 73, are examples. Nowhere, however, has it been held that a reissue wherein the claims are narrowed is void for laches. It is true that in Pelzer *vs.* Meyberg, 97 Fed., 969, it was held that there were

> degrees of diligence in applying for a reissue, and that a higher degree was required in the case of a broadened claim than in the case of a narrowed claim. The case came up on demurrer, and apparently there was no excuse for the delay set forth."

It is to be noted that in this case the reissue gave the patentee a distinct advantage over and above that which flows from the conversion of a claim invalid because too broad, into a restricted valid claim. It secured to him a valid patent on which he might maintain suit for infringement, whereas it was a matter of much doubt whether suit could be maintained at all on the prior patent by reason of the patentee's failure seasonably to file, under Section 4922 R. S., a disclaimer of a claim which had been held invalid by the Circuit Court of Appeals. It is to be noted also that the patentee had delayed the filing of the reissue for over three years after the Court of Appeals had held the claim invalid, thus being clearly put upon notice of the defect by the ruling of a court whose decision is final on patent questions.

From a review of the authorities on this point it seems fair to conclude that when it is sought to restrict a patent, delay is of no consequence. This should be true even where it is proposed to secure more restricted claims in addition to the broader claims of the original patent; in other words, the rule should be regarded as permitting the addition of claims at any time during the life of the patent which come within the scope of the original claims, providing, of course, a proper showing is made of inadvertence, accident or mistake, and providing due diligence was exercised after the discovery of the error.

INTERVENING RIGHTS.

Intervening rights, which has been fatal to so many reissues, is a question which does not often, if ever, come before the Patent Office. The prosecution of reissue applications is entirely *ex parte,* as in other cases, and the office has no way of investigating this matter. There is a question whether the granting of patents between the date of the original and the reissue is an intervening right. The Circuit Court in Minnesota in the case of American Bank Protection Co. *vs.* Electrical Protection Co., 181 Fed. Rep., 350, decided that it was not. To the same effect is Gaskill *vs.* Myers, 81 O. G., 1111; 1897, C.D., 699. The contrary holding was made by the District Court of New York in the case of Specialty Machine Co. *vs.* Ashcroft Mfg. Co., 205 Fed. Rep., 760, where there had been a delay of three years. This point has but seldom been directly involved and it can not be said that the law in respect thereto is settled. See also White *vs.* Dunbar, 119 U. S., 51; 1886, C. D., 494; American Soda Fountain Co. *vs.* Sweitusch, 85 Fed. Rep., 968; Clements *vs.* Odorless Apparatus Co., 109 U. S., 641; Flower *vs.* City of Detroit, 22 Fed. Rep., 292; Horn & Brannen Mfg. Co. *vs.* Pelzer, 91 Fed. Rep., 665.

INADVERTENCE, ACCIDENT OR MISTAKE—BROADENED AND RESTRICTED REISSUES.

Some of the decisions appear to make a distinction between the character of mistake which would warrant a broadening of claims by reissue and those where other defects are sought to be corrected. This is intimated in Miller *vs.* Brass Co., where the court says that a claim may be enlarged by reissue only when there has been a "real *bona fide* mistake, inadvertently committed, such as a Court of Chancery, in cases within its ordinary jurisdiction, would correct." Since the decision of the court was founded upon the proposition that the statute did not specifically provide for the enlargement of claims by reissue, it might well have imposed the condition that in such cases only such errors as a Court of Chancery might correct would be considered as sufficient ground for reissue, while errors of lesser moment might be corrected where it was sought merely to limit the claims or correct the description. But a review of later authorities indicates that an inadvertence, accident or mistake, which will support a narrowed reissue will also support a broadened reissue. Let us now examine the question, what may be considered an inadvertence, accident, or mistake.

It is believed that the weight of authority will sustain the proposition that any failure to secure in the original patent the invention to which the applicant was entitled which was not the result of a deliberate act, or was not the result of an intention to deceive, may be attributed to inadvertence, accident, or mistake. One of the most thoroughly considered cases on reissue is that of Crown, Cork & Seal Co. *vs.* Aluminum Stopper Co., 1901, C. D., 450, 108 Fed. Rep., 845, decided by the Circuit Court of Appeals for the Fourth Circuit. In that case, the court said:

> "A review of the earlier decision of the Supreme Court would seem to show that by 'defective or insufficient specifications" was meant any failure to describe or claim the complete invention upon which the application for the patent was founded, and that 'inadvertence, accident, or mistake' was used in antithesis to fraudulent intent, and that the right to reissue depends upon any failure to make the specification and claims legally adequate for their purpose, if due to any cause except an intention to deceive."

In the case of In re Briede, 1906, C. D., 677, the Court of Appeals found the existence of inadvertence, accident or mistake, where the error alleged was a failure to secure a certain claim arising from unfamiliarity of applicant and his solicitor with the English language.

In In re Heroult, 1907, C. D., 521, the same court found the existence of inadvertence, accident or mistake, where there was failure to secure a claim of sufficient scope which arose (according to the allegations of applicant, who was a citizen of France) because of ignorance of the difference between the laws of France and the United States.

In the case of Crown Cork & Seal Co. *vs.* Aluminum Stopper Co., cited above, there was a broadened claim and no showing of any particular inadvertence, accident, or mistake except an allegation that the application papers were hurriedly prepared, and that neither applicant nor his attorneys noticed the defects throughout the years of the prosecution of the application.

In the case of Houghton *vs.* Whitin Machine Works, 153 Fed. Rep., 740, it was held by the Circuit Court of Appeals for the First Circuit, that the failure to make claims of sufficient scope may be regarded as inadvertence, accident, or mistake. In Moneyweight Scale Co. *vs.* Toledo Computing Scale Co., 187 Fed. Rep., 826, 170, O. G., 728, the Circuit Court for the Seventh Circuit said:

> "The original specification alone on its face was sufficient proof that, if a claim adequate to cover the improved scale was never drawn, the failure came from the lack of an attentive comparison of the submitted claims with the invention particularly pointed out in the specification. This was inadvertence, "lack of heedfulness or attentiveness,' irrespective of the real competence or incompetence of the solicitors."

In Topliff *vs.* Topliff, where the Supreme Court sustained a broadened reissue, there was no showing of inadvertence, accident, or mistake, the oath alleging merely that the patent was defective and insufficient, and that the defects and insufficiencies arose from inadvertence, accident, or mistake. It is to be noted however, that the application in this case was applied for before an applicant was required to set forth the particular defects of his patent, what the errors were, and how they arose or occurred.

From a review of the authorities it is believed to be a fair conclusion that a mere failure to claim what was indicated in the drawings and specifications as a part of the invention is an inadvertence, accident or mistake within the meaning of the statute, unless the failure was due to an intent to deceive, or to some deliberate act inconsistent with the theory of inadvertence. And it is believed that this rule is as applicable to broadened reissues where the application is filed within two years of the date of the original patent as it is to restricted reissues. As a general rule, the defects and insufficiencies of a patent are not the result of a failure fully to describe the invention, or a failure to claim it with sufficient particularity; but they result from a failure to make claims of sufficient breadth to protect the real invention. For example, a claim is made to a combination of four elements whereas it is clear to one skilled in the art that one of those elements may be omitted without destroying the capacity of the device to perform the substantial function set out in the specification. An ordinary inventor, or even one who has had considerable experience in patent matters, could not be expected to know that his invention was not fully covered by the claim to four elements. It must be the common observation of any one who has had any intimate knowledge of these matters that it is difficult even for those who are most highly skilled in the interpretation of claims sometimes to determine the true scope of a claim once drawn, or to draw claims adequate to protect the real invention. These difficulties were forcefully pointed out in the case of Crown Cork & Seal Co. *vs.* Aluminum Stopper Co., *supra*, where the Circuit Court of Appeals said:

> The learned counsel for defendant assumes that the subject is so simple that Painter should have discovered instantly upon reading the original patent the occasion for the reissue, if it existed. He forgets that what seems so simple and easy to him, a past-master of the subject, was not so to a mere inventor, unskilled in the art of interpretation, who could not upon a mere reading of his patent determine what his claims covered. Painter had no hesitation and no doubt what his invention covered, and almost immediately upon the hearing of the issue of Hall's patent he said that it was covered by his invention; but it was not until he was advised by his lawyer that he learned that his claims were not commensurate with his invention, and there was no delay then in filing his application for reissue. Some allowance may well be made for an unlearned man, when we remember that in the recent case of *Westinghouse* vs. *Power-Brake Co.* (C. D., 1898, 443; 83 O. G., 1067; 170 U. S., 537; 18 Sup. Ct., 707; 42 L. Ed., 1136) the Supreme Court itself required three hearings before it could determine the meaning and scope of the patent claims, and the record

> in this case shows that such learned experts as General Spear and Mr. Walker differ radically as to what the claims of the original patent cover.

In view of the difficulties of drawing up this very technical document and determining its metes and bounds, it is thought that it should be the general rule to regard any failure to secure to the owner of the patent adequate protection for the invention described and claimed as inadvertence, accident or mistake, if application is made for reissue promptly upon the discovery of the error, and within two years from the date of the original patent, unless the record itself is inconsistent with the allegation of inadvertence, accident, or mistake. In reviewing the showing of inadvertence, accident, or mistake, of course it is always necessary to examine the record of the original patent to see whether there is anything there inconsistent with the allegations of applicant's oath. If one in the prosecution of an application should make a certain claim, and, upon its rejection on references, cancel it in order to receive his patent, it is obvious that his act is deliberate and he will not be heard to say that he was mistaken in his judgment as to the pertinency of the references and desires a reissue to correct the error; the error in such case, if there was error, was not an error within the meaning of the statute, but an error of judgment merely. The same would be true if a disclaimer were entered in the specification during the prosecution of the case. If the record of the original patent is not consistent with the claim of inadvertence the intention of the applicant must be determined from the original record.

DELAY LESS THAN TWO YEARS.

The most difficult of all points to decide in passing upon reissue applications is whether the application has been seasonably filed. This does not present much difficulty when the aplication is filed within two years. By this I do not mean that any application filed within two years is seasonably presented. Reissues have been held void because of laches in filing the application in cases where the delay was only a few months. An examination of those cases where a delay of less than two years was held fatal will show that in a majority of the cases there were actual intervening rights, or that the owner of the patent did not proceed with diligence after the discovery of the defects in his patent or after he was put upon notice of such defects.

DELAY MORE THAN TWO YEARS.

What are the principles to govern the grant of a reissue application for broadened claims which has been filed more than two years after the date of the patent? No general rules can be laid down. The decision in each case must depend upon the particular circumstances.

In the case of Mahn *vs.* Harwood, 112 U. S., 354, the Supreme Court said:

> "In Miller *vs.* Brass Co., by analogy to the law of public use, before an application for a patent, we suggested that a delay of two years in applying for such correction should be construed equally favorable to the public. But this was a mere suggestion by the way, and was not intended to lay down any general rule. Nevertheless the analogy is an apposite one, and we think that excuse for any longer delay than that should be made manifest by the special circumstances of the case."

It should appear from applicant's showing when the mistake was discovered, and if the reissue application was not promptly filed, the reason why. If circumstances were of a compelling nature delay should be excused, but delay on account of attention to other business matters should not suffice as an excuse.

It is not seen that the character of the mistake which it is sought to correct has any relation to the doctrine of delay except as it has a bearing upon its probable discovery. A mistake might be so plain that any interested party, upon reading the patent, would discover it. On the other hand it might be so obscure that one could

16

A "Career" In the Patent Office

A paper read November 12, 1914, before the Examining Corps of the United States Patent Office

CECIL F. TUCKER,
Principal Examiner, Division Eight
U. S. Patent Office

WASHINGTON, D. C.
1914

A "Career" in the Patent Office.

By
GEO. P. TUCKER,
Principal Examiner, Division 8.

I have entitled this paper "A Career in the Patent Office" when perhaps it should have had the interrogative heading—What possibilities for a career are there in the Patent Office for an ambitious young man?

It is the purpose of this paper to look into this question somewhat and point out features in office work, which doubtless have appealed to some men, and which may appeal to others. Many instances have been known of men who have rounded out years of service in the Patent Office and retired satisfied with what they have done. Most of us entered the Examining Corps from choice and some have remained from choice.

It is quite true that many from the moment of their entry plan to use their office training as a stepping stone to Patent Law Practice; also that the number of Examiners leaving the office for outside work has been large for many years, so large, in fact, as seriously to engage the attention of the Commissioner, the efficiency of the corps as a whole being imperilled by these losses. In the report recently prepared by Mr. Boyle and Mr. Ulke, concerning the German Patent Office, it was said, "Examiners never resign from that office for the purpose of practising before the same, as such a practice is held to be ethically bad."

It is not intended to disparage the opportunities for a career there are in practising before the office, much less those in practising before the courts. We all know that very many men have attained professional and financial success in both of these channels.

We may, however, pause for a moment to compare the work of Examining applications for patents with the work of preparing and prosecuting these applications.

With possibly the exception that the latter is more varied in subject-matter and therefore more interesting, the advantage, in my opinion, lies with the work of examining. What the latter lacks in variety, it makes up in concentration and thoroughness of attention on one or more arts. And a thorough knowledge of any art is not so very narrow as to field, as I shall endeavor to point out a little later.

The Examiner's duties are judicial in nature; an attorney or solicitor is an advocate. If a man's mind tends to the judicial, he will enjoy deciding questions rather than pleading them.

I am told the solicitor's complete enjoyment of his work is sometimes marred by the peculiar mental processes of the inventor, or the failure of the latter to understand the utility of the Rules of Practice. The Examiner in dealing with the attorney can usually confine his attention to the merits of the case.

Deciding a question must always be considered as important work as the advocacy of either side thereof, and an able judge is not reckoned inferior to an able advocate.

Patent Office work has always appealed to me because it presents ever changing views of the advance in the industrial arts, the constructive thoughts of inventors from all over the world. The Patent Office is a sort of clearing house for ideas. If an inventor comes in with more credits in his application than there are debits charged against him in the patents, publications, etc., of others, he goes out with his credit balance in the form of a patent. His patent exhibits his contribution to the art and to watch these contributions grow, to observe the ever shifting lines of growth, to mark the different ways inventors take to reach the same goal, and to note how eagerly the advance made by one is seized upon by others, is like watching a battle from a point of vantage, seeing all operations pass in review. The Examiner occupies this point of vantage relative to the march of progress of the industrial arts. He is, as it were, at the center of things and assuming he is interested, he must appreciate and enjoy the advantages of his position.

But I wish particularly to point out how his enjoyment of his position may be made greater, his efficiency therein increased and the position itself made more important.

These results may all be accomplished by the Examiner thoroughly knowing his art.

The Examiner who "knows his art" as this expression is used in the office, is not without honor among his associates. He is, for instance, a bad man to run up against in trying to transfer a case unwarrantably into his class.

But to know an art thoroughly in the ideal sense means more than a knowledge of the subject-matter of each sub-class with perhaps a full acquaintance with a comparatively few prominent patents.

It means a knowledge of how the art has grown; of the inventors who have worked most assiduously therein and their lines of endeavor; of the publications, commercial and otherwise, relating thereto; of related arts in so far as they affect his art. It involves, of course constant examination of patents and publications; it requires the attention to be always alert to see matters bearing on the subject. It should include a practical acquaintance with the more active and prominent manufacturing establishments connected with the art, and if the Examiner could personally meet and know the inventors most active in the art, the acquaintance would be of great assistance to him.

To digress for a moment, I believe more opportunities should be given the Examiners to visit industrial establishments than are now possible, for only in this way can a practical view be gained of many arts.

A man comes into the office fresh from college with a knowledge of the industries of the country limited to his study of books to pass the entrance examination in technics. He is placed, for instance, in Division 34, when he doesn't know enough about practical railroad structures to tell the difference, to use an old expression, between a split switch and pot of red paint. Yet that man will soon have to pass judgment on the usefulness or operativeness of some device gotten up possibly by the master mechanic of some railroad.

And in other lines of work it is the same way.

If an Examiner is ambitious to know his art, the Government should assist to the extent of giving him an occasional inspection trip to factories, etc., directly related thereto, especially as the principle is officially recognized in other Governmental Departments.

The appropriation for books and periodicals should be larger than it now is that the complete record of progress made along industrial lines may be consulted and further information gained.

But to come back to "knowledge of an art:" I said above that this is not a narrow field. Perhaps, this can best be illustrated by inspecting a particular art. Take, for example, the art of paper making, excluding things made of paper and including wood pulp making.

The industry is a large one, the United States Census of 1910 gives for the year 1909, 538 establishments making paper only; 81 establishments making pulp only; 158 making paper and pulp; altogether 777 establishments in the United States with a capitalization, in round numbers, of 409 million dollars. Thirty-one States were represented in the industry. But the art is not bounded by the United States, and a knowledge thereof must include the varied use of many different materials to produce wood pulp and paper in a great variety of forms throughout all countries practising the industry.

Wood pulp is made mechanically as ground wood; chemically as soda pulp, sulphite pulp, sulphate pulp, etc. according to the chemicals used. Many different processes are employed and considerable machinery involved in making wood pulp, including machines for reducing the wood, digesters with accompanying apparatus for producing sulphite, washing and screening apparatus and presses for forming the pulp into dry or semi-dry sheets. The recovery of spent liquor and by-products from the digesting operation is a large and increasing industry as it is possible and profitable to manufacture many chemical substances from the resinous and non-fibrous constituents of the wood, all of which when carried on in connection with the digesting operation is really a part of the pulp making art.

Paper pulp is, of course, made from various materials besides wood. Almost any plant containing cellulose in large amount is availed of, such as cotton, flax, hemp, ramie, manilla, jute, bagasse, bamboo, esparto, and straw. The employment of each of these involves separate processes and machinery. The bleaching of the pulp is an important accessory.

When it comes to making paper from pulp, more and different processes and machines are employed. The pulp has to be beaten up in beating engines, filler or size added, and the material screened before it is ready for the foudrinier machine or its equivalent. Then comes the finishing or calendering operation and if the paper is a special kind, then follows the coating for art papers, or impregnating for blue print, medicated and cheque papers. A special branch is the preparing of clean paper pulp from waste paper, and a related art is the making of constructive materials having a base of fibre pulp such as papier-mache, vulcanized board, and roofing sheets.

From this sketch of the art of paper making, it will be seen a wide field of study may be involved before complete knowledge thereof is gained. Other arts are doubtless more extended.

Is not the field large enough to inspire one's ambition to be an expert therein? This is an age of specialists, and, to my mind, a specialist in the field of any industrial art is as honorable as a specialist in medicine or even in the law. So therefore I commend this object to you.

When it is taken into consideration that in addition to proficiency in the mechanic arts, there is imposed on members of the Examining Corps, a necessity for knowing thoroughly the patent law, as the same may apply to the granting of patents, there is left no room to doubt that the well trained patent Examiner is deserving of being called a Government expert. I shall not enlarge upon the legal knowledge the Examiner should have; the impressiveness of this feature being doubtless brought home to your attention by other papers read before you.

I will not dwell on the character of the examination to be passed before entrance to the corps is gained. Suffice it to say, this examination secures for the service as good raw material as enters any Government or other service of equal size.

I shall, however, venture to call to your attention the fact that the great majority of applications are finally adjudicated in the Examining Division and that many applicants prefer to rest their case with the Primary Examiners, rather than by appealing receive a patent with an adverse decision on record against it. In each Examining Division, are settled each day questions of momentous importance to the industries of the country. A heavy responsibility rests on each man determining these questions and a constant realization of this fact must tend to make the Examiner take his work seriously and result in giving him an appreciation of the dignity of his position.

I will close with the suggestion that to be a member of the Examining Corps of the United States Patent Office is no small honor and that every man therein, and woman too, for that matter, should guard that honor and work to increase it.

READ NOVEMBER 12, 1914.

INVENTION vs. MECHANICAL SKILL

A paper read November 12, 1913, before the Examining
Corps of the United States Patent Office

BY

GAIL P. TUCKER,
Principal Examiner, Division Eight
U. S. Patent Office

WASHINGTON, D. C.
1914

This article was printed in Robb's Patent Essentials at page 45.

Invention vs. Mechanical Skill.

By

GEO. P. TUCKER,

Principal Examiner, Division 8.

In most Divisions of the Office there are classes of inventions long established; inventions in devices that generically have been in use almost from the time when the memory of man runneth not to the contrary. In no division probably is this more true, than in Division 8. Furniture is as old as habitations and habitations nearly as old as man.

It follows that the classes of beds, chairs, and furniture proper must be well developed and that inventions therein must be directed to improvements; that the advance in the art made by each invention will probably be small and that in each case, a search will disclose a fairly close approximation of the device as a whole and suggestions of the details of the improvement.

Under these circumstances, the question whether the applicant has produced something requiring the exercise of the inventive faculty or not, is continually before the Examiner for settlement and by virtue of its ubiquity overshadows all other questions in importance.

With a view of deducing, if possible, from the mass of decisions on the subject, some principles which may serve as buoys and beacons to mark the navigable channel of invention from the flats and shallows of mechanical skill, some study of the subject has been made and the results thereof are here set down.

It is an accepted rule that invention must be involved in the production of an Art, Machine, Manufacture, or Composition of Matter before the same can be held patentable. The statute, Section 4886, says—

> "any person who has invented or discovered any new and useful art, etc., may obtain a patent therefor."

All the recent writers of textbooks on the subject from Robinson to Rogers, agree on this rule. Robinson, for instance, says in Book I, paragraphs 77 and 78:

> "The inventive act in reality consists of two acts; one mental, the conception of an idea; the other manual, the reduction of that idea to practice. . . . The mental faculties employed in the inventive act are the *creative*, not the *imitative* faculties. An invention is the product of original thought. It involves the spontaneous conception of some idea not previously present to the mind of the inventor. Industry in exploring the discoveries and acquiring the ideas of others, wise judgment in selecting and combining them, mechanical skill in applying them to practical results; none of these are creation; none of these enter into the inventive act."

The rule is so well set forth in the decision of Mr. Commissioner Hall, in Ex parte Devin, C. D., 1888, page 166, that I can not refrain from quoting. He said:

> "It is not sufficient that an applicant shall have made a new and useful article or machine; but he must have made an *invention* or *discovery*. These terms have received a clear and well-defined construction at law, and in the decisions of the courts, the word *discovered* having practically the same meaning as the word *invented*."

In deciding adversely the case before him, he went on to say:

> "It is well known that the mechanics, artisans, and laborers of the world are continually making an infinite multitude of new and useful contrivances, changes, and modifications in the affairs of life, and yet they do not dream of patenting them, for the reason that they are not the result of the exercise of the inventive faculty, but simply of the mechanical faculty."

A leading decision by the United States Supreme Court, setting forth the Rule requiring invention, is The

Atlantic Works *vs.* Brady, printed in C. D., 1883, page 214, which says:

> "The process of development in manufactures creates a constant demand for new appliances, which the skill of ordinary head workmen and engineers is generally adequate to devise, and which, indeed, are the natural and proper outgrowth of such development. . . . To grant to a single party a monopoly of every slight advance made, except where the exercise of invention somewhat above ordinary mechanical or engineering skill is distinctly shown, is unjust in principle and injurious in its consequences. The design of the patent laws is to reward those who make some substantial discovery or invention which adds to our knowledge and marks a step in advance in the useful arts. It was never the object of these laws to grant a monopoly for every trifling device, every shadow of a shade of an idea, which would naturally and spontaneously occur to any skilled mechanic or operator in the ordinary progress of manufactures."

The above citations are thought sufficient to make the Rule stated authoritative.

The problem for the Examiner, is, of course, to determine in a given case whether invention is present.

Each case has to be decided on its own merits. No writer or court has ventured to state the elements of the mental creative act referred to by Robinson, in the quotation given above; some have expressed the seeming impossibility of defining invention. In McClain *vs.* Ortmayer et al., C. D., 1891, page 532, the Supreme Court said:

> "The word 'invention' can not be defined in such a manner as to afford any substantial aid in determining whether a particular device involves an exercise of the inventive faculty or not."

Judge Dennison in his recent talk before the Examining Corps admitted the courts are still struggling with the question of what constitutes invention. He gave a statement of one way of approaching the question which is: First determine exactly what the inventor aimed to do to advance the art, and, secondly, determine whether the alleged anticipating invention evidences an invention to advance along the same line. This will place the investigator in a position to separate out and weigh the character of the difference between the results obtained by each.

Neither have we, relative to "mechanical skill," a dogmatic statement as to what the "artisan," "head-workman," or "engineer," mentioned in the Supreme Court decision above, may be expected to produce. Definitions of "persons skilled in the art" are found in the decisions in Ex parte Kerr, C. D., 1884, page 27, and in The Tannage Patent Co. *vs.* Zahn, a circuit court decision printed in C. D., 1895, page 367; according to these decisions "persons skilled in the art," are those of ordinary and fair information relating to the subject matter of the invention. Of course, the section of the Statute, No. 4888, using this term, refers to the fullness and clearness of the description requisite to support a patent, such description being directed to "persons skilled in the art." But it is persons of this character who may be expected to, and do produce changes and improvements evidencing mechanical skill. A reasonable deduction must be that the skill and training of an engineer must be counted "ordinary" to his profession. A civil engineer, for instance, has large knowledge along certain lines, but so presumably have all civil engineers. A physician is wise in the matter of compounding prescriptions, but so, presumably, are all physicians. They are persons skilled in their particular arts. And if these persons make inventions which do not distinctly show originality, but merely a full professional knowledge availed of to produce results that might have been foreseen by persons equally learned and skilled, their work may properly be held to have evinced only mechanical skill.

But if a definition of exactly what constitutes invention be lacking, a number of decisions have been rendered in specific cases marking out, first, certain changes and even improvements that do not amount to invention;

and, secondly, indicating changes and improvements that have been decided to involve invention.

By a consideration of the first class of decisions certain "flats and shallows of mechanical skill," to continue the nautical metaphor mentioned above, are located and the possible bounds of the "channel of invention" somewhat defined.

Of the first class, the following decisions may be noted:

> "Mere skill of construction is not invention but only mechanical skill." Ex parte Snider, C. D., 1894, page 23.
>
> "To make an apparatus portable is not a patentable improvement." Black Diamond Coal Mining Co. *vs.* Excelsior Coal Co., C. D., 1895, page 267 (U. S. Supreme Court).
>
> "The right to improve upon prior devices by making solid castings in lieu of constructions of attached parts is so universal in the arts as to have become a common one." Consolidated Electric Manufacturing Co. *vs.* Holtzer, C. D., 1895, page 476 (Circuit Court of Appeals).
>
> "Mere change of proportion is not sufficient to avoid a charge of infringement and is not therefore sufficient to establish difference of invention." Thomson-Houston Electric Co. *vs.* Western Electric Co., C. D., 1896, page 315 (Circuit Court of Appeals).
>
> "There was no invention in providing a bearing surface upon the frame of a dash . . . either by an increase in the quantity of metal or otherwise, so as to strengthen the proper part in a proper way for its proper duty." Peters *vs.* Hanson, C. D., 1889, page 444 (U. S. Supreme Court).
>
> "There is no patentable invention involved in swaging or striking up by means of a die, from a blank of iron or steel, a rail-brace of a form which had previously been made of cast metal." Strom Mfg. Co. *vs.* Weir Frog Co., C. D., 1896, page 618 (Circuit Court), and Kilbourne *vs.* W. Bingham Co., C. D., 1892, page 477 (Circuit Court of Appeals).
>
> "The matter of elastic suspension by springs,

and of otherwise giving entire or partial independent support is so common in the arts that the presumption is against the patentability of any such mere form of suspension. The selection of a form of support is in the common field of mechanical construction." Thomson-Houston Electric Co. *vs.* Athol and Orange St. Railway Co., C. D., 1897, page 694 (Circuit Court).

"To increase or decrease the number of intermediate gear-wheels in the train of gearing of a timepiece from the number shown in the reference to accommodate the mechanism to the size of the case and still maintain the proper value between the rate of revolution of the minute and hour hands is within the skill of the mechanic familiar with the art and does not involve invention." Ex parte Volkmann and Truax, C. D., 1906, page 372. See, also, New Departure Bell Co. *vs.* Bevin Brothers Mfg. Co., C. D., 1896, page 428 (Circuit Court of Appeals).

"Where two mechanisms for performing successive operations upon a piece of work are both old in the art, the assemblying of these mechanisms upon a unitary support in such manner that the operator may transmit the work from one to the other without changing his position at the machine, *held* not to involve invention." Ex parte Smith, C. D., 1909, page 214.

"*Held* that ordinarily there is no invention involved in making in two pieces and separable things which have before been made in one piece of parts inseparably connected." Ex parte Thurston, C. D., 1905, page 294.

"Butt-welding of metal being old, claims for a metal pan formed of two parts, with the joining edges butt-welded, *held* not patentable over the prior art, as the substitution of a butt-weld for a crimped seam does not constitute invention." In re Hogan, 203 O. G., page 1558 (Court of Appeals, D. C.).

A statement made by Judge Putnam, of the Circuit Court, District of Massachusetts, in the case Dalby *vs.*

Lynes, C. D., 1895, page 381, deserves consideration, since it was afterwards quoted with approval by the Court of Appeals of the District of Columbia, in Fay *vs.* Duell, Commissioner of Patents, C. D., 1900, page 232. The statement is:

> "A novelty involving a state of art so universal and common as the making and adjustment of clothing must be of a radical character to overcome the presumption against its patentability."

As to rearrangement and reversal of parts without the accomplishment of a new result, the following decisions are pertinent:

> "The reversal of a tongue and its recess in the same kind of a structure, even if productive of an improved, but not a new, result does not require patentable invention." Sax *vs.* Taylor Iron Works, C. D., 1887, page 444 (Circuit Court).
>
> "Where certain parts of a water-tight shoe were old, a simple change in the form and arrangement of such parts subserving the same purpose as like parts of shoes constructed under earlier patents, and without causing any new function to be performed, does not constitute invention." Burt *vs.* Evory, C. D., 1890, page 245 (U. S. Supreme Court).
>
> "In a water heating apparatus the arrangement of vertical pipes over instead of at the side of the fire does not constitute patentable novelty, and varying the length of these pipes so as to avoid interfering with the fuel space is an obvious change for an obvious purpose and does not amount to invention." Ex parte Garland, C. D., 1892, page 3.
>
> "Wooden bearings in excelsior-machines being old, there is no patentability in a wooden bearing in such machine placed therein so that the grain of the wood will run vertically with the line of motion of the journal instead of at right angles thereto.
>
> "The use of lugs to prevent lateral movement

> being well known, their employment in an excelsior-machine to prevent lateral movement of the sliding plate involves no invention." Johnson *vs.* Olsen, C. D., 1894, page 453 (Circuit Court).
>
> "To make the handle of a knife for cutting hay reversible on the head of the shank to which the blade is attached, does not require anything more than ordinary mechanical ingenuity and does not involve invention." In re Iwan, C. D., 1901, page 344 (Court of Appeals, D. C.).

If, however, the rearrangement of parts involves a reorganization of the machine tending to simplification or an improved manner of operation, this may require and involve invention.

See, for instance, the following decisions: Wilcox and Gibbs Sewing Machine Co. *vs.* The Merrow Machine Co., C. D., 1898, page 584 (Circuit Court of Appeals), in which Judge Lacombe said in substance:

> "Although the patentees have borrowed in part from the earlier art, they have so arranged the various parts as to tend towards simplicity, and have doubled speed of the overseam machine, and therefore the court is disposed to consider the changes in parts and arrangement of parts as showing meritorious invention."

Similar decisions are made in Morgan Engineering Co. *vs.* Alliance Machine Co., C. D., 1910, page 438 (Circuit Court of Appeals); Exparte Johnson, C. D., 1909, page 188.

It may be considered settled that a mere carrying forward or change in degree of an original idea is not invention; such cases frequently present a mere duplication of existing parts.

In Williams et al. *vs.* The Goodyear Metallic Rubber Shoe Co., C. D., 1892, page 288.

Judge Shipman said, speaking of the then recent Supreme Court decisions in Smith *vs.* Nichols and Burt *vs.* Evory:

> "The tendency of these decisions is to confine patentability within narrower limits than for-

> merly. They especially demand that a device which is an improvement upon a pre-existing one must, in order to be patentable, contain a new idea, and perform some new function and not present changes of degree only, or simply 'new and more extended applications of the original thought.' "

Other decisions of the same character are: Busell Trimmer Co. *vs.* Stevens, C. D., 1890, p. 586 (U. S. Supreme Court); Consolidated Roller-Mill Co. *vs.* Walker C. D., 1891, page 310 (U. S. Supreme Court); Wright *vs.* Yuengling, C. D., 1894, page 560 (U. S. Supreme Court); In re Seabury, C. D., 1904, page 655 (Circuit Court of Appeals, D. C.).

The question sometimes arises in the Examiner's mind whether the practically simultaneous invention of the same thing by a number of inventors working independently does not of itself indicate the work to be that of a skilled mechanic. In Bromley Bros. Carpet Factory *vs.* Stewart, C. D., 1892, page 669, Judge Acheson said:

> "That upon the idea of making an improvement, an adaptation of an old machine to the new purpose was proposed almost simultaneously by three independent parties by an alteration of mechanism slightly different structurally, but the same in principle in each case, is evidence that such change was obvious and did not involve invention."
>
> See, also, North British Rubber Co. *vs.* Jandorf, C. D., 1898, page 313 (Circuit Court); and Computing Scale Co. *vs.* Automatic Scale Co., C. D., 1905, page 704 (Circuit Court of Appeals, D. C.).

As to the omission of mechanical parts, the rule seems well settled and appears to be—

> "A reconstruction of a machine so that a less number of parts will perform all the functions of the greater may be invention of a high order; but the omission of a part with a corresponding omission in function, so that the retained parts

> do just what they did before in the combination, can not be other than a mere matter of judgment, depending upon whether it is desirable to have the machine do all or less than it did before." McClain *vs.* Ortmayer, C. D., 1888, p. 231 (Circuit Court); See also National Hat Pouncing Machine Co. *vs.* Hedden, C. D., 1893, p. 294 (U. S. Supreme Court).

On the question of substitution of materials or parts, the rule clearly is that if the substituted material or part was well known and its advantages and virtues understood, and the new result attained by the substitution was due solely to the characteristics of the material or part substituted, the substitution displays no invention. Ex parte Krell, C. D., 1888, page 139; Ex parte Odenheimer, C. D., 1889, page 240; Ex parte Foss, C. D., 1891, pages 153 and 208; Ex parte Grayson and Crecelius, C. D., 1894, page 100.

However, if the substitution of a part results in overcoming particular difficulties and results in a particularly meritorious article or machine, the substitution may involve invention, according to the decision in Mast, Foos and Co. *vs.* Dempster Mill Mfg. Co., C. D., 1898, page 297 (Circuit Court of Appeals).

In the above series of decisions, I have tried to select those where the language used in each may be applicable to more than one particular set of circumstances; in other words, to select cases typical each of a class.

In taking up the second class of decisions, viz. those deciding invention to have been present and its requirements satisfied, it is noteworthy that the great majority of them decide only its particular case; in other words, that as to that particular craft, it is in the "navigable channel of invention."

Some cases have been said to be just within the bounds of the channel and a few have used language broad enough to help in defining the channel.

For instance—

> "Simplicity does not negative invention when a new and useful result is accomplished." Western

> Mineral Wool Co. *vs.* Globe Mineral Wool Co., C. D., 1896, p. 622 (Circuit Court).
>
> "Whenever in an art, machine, manufacture, or composition of matter a change, however apparently minute, is made which is not obvious and results in marked advantages, a patentable invention has been produced." Ex parte Champney, C. D., 1892, page 176.
>
> "In determining the question of patentable novelty, there can be no hard and fast rule. Each case must be decided upon its own facts. Mere change of form in and of itself does not disclose novelty. A new article of commerce is not necessarily a new article patentable as such. But patentable novelty in a case like the present may be founded upon superior efficiency; upon superior durability including the ability to retain a permanent form when exposed to the atmosphere; upon a lesser tendency to breakage and loss; upon purity and, in connection with other things, upon comparative cheapness." Union Carbide Co. *vs.* American Carbide Co., C. D., 1910, p. 471 (Cir. Court of Appeals).

In this case, a chemical compound, calcium carbid, was under consideration.

It is not considered necessary in this paper to touch upon the feature of invention as embodied in a patentable combination or a patentable process, as these subjects have been treated *in extenso* in excellent papers already read before the Examining Corps.

One subject of importance, however, deserves our attention; it is that of double or analogous use.

It is fundamental that a patent covers a device in all the uses to which it may be applied; if a device be transferred from one art to another and the arts be analogous, no invention is involved in the transfer. That the new use was not contemplated by the patentee is immaterial. Aron *vs.* Manhattan Ry. Co., C. D., 1889, page 650 (U. S. Supreme Court); Howe Machine Co. *vs.* National Needle Co., C. D., 1890, page 281 (U. S. Supreme Court); Ansonia Brass and Copper Co. *vs.* Electric

Supply Co., C. D., 1892, page 313 (U. S. Supreme Court).

But, as the court said in the last mentioned decision:

> "If an old device or process be put to a new use which is not analogous to the old one, and the adaptation of such process to the new use is of such a character as to require the exercise of inventive skill to produce it, such new use will not be denied the merit of patentability."

In this case and especially in the celebrated case, which was decided nearly three years later, viz.: Potts and Co. *vs.* Creager et al., C. D., 1895, page 143, the Supreme Court discusses at length the question of double use.

In the latter case, the validity of two patents each to C. and A. Potts for a clay disintegrator, was being investigated. The disintegrator was made up of a revolving cylinder with longitudinal cutting bars at spaced intervals on and projecting from its surface. Opposed to this cylinder was, in one patent, a swinging board moved in and out by an eccentric and in the other patent, a smooth revolving cylinder. The action of the machines was to cut or shred the clay.

Numerous alleged anticipating patents were cited from many arts showing grinding, crushing, cutting and rolling operations applied to many substances: an exhibit of the Creager wood-polishing machine was considered by the court, the nearest approach to anticipation; it had a cylinder with projecting strips or bars of glass, and of this the court said:

> "Had this machine been used for an analogous purpose, it would evidently have been an anticipation of the Potts' cylinder, since the substitution of steel for glass strips would not of itself have involved invention."

Concerning the patents cited as anticipations, the court repeatedly asked the questions: Will the machine disintegrate clay? Will it cut or shred like the Potts' machines?

The whole decision shows the great importance the court placed on the result obtained by revolving the knives in the new use.

The following much quoted conclusion was a part of this decision:

> "As a result of the authorities upon this subject, it may be said that, if the new use be so nearly analogous to the former one, that the applicability of the device to its new use would occur to a person of ordinary mechanical skill, it is only a case of double use, but if the relations between them be remote, and especially if the use of the old device produce a new result, it may at least involve an exercise of the inventive faculty. Much, however, must still depend upon the nature of the changes required to adapt the device to its new use."

Another Supreme Court decision emphasizing the importance of the object and function of a machine relative to the question of anticipation and therefore having a bearing on the question of originality or invention is Topliff *vs.* Topliff, C. D., 1892, page 402, wherein the court said:

> "It is not sufficient to constitute an anticipation that the device relied on might by modification, be made to accomplish the function performed by the patent in question, if it were not designed by its maker, nor adapted, nor actually used for the performance of such function."

Another prominent Supreme Court decision, pointing out the importance of a new and improved result is Webster Loom Co. *vs.* Higgins, C. D., 1882, page 285, wherein it was said:

> "A new combination of known devices producing a new and useful result (as that of greatly increasing the effectiveness of a machine), is evidence of invention."
>
> See, also, Miller *vs.* Lodge and Davis Machine Tool Co., 77 Federal Reporter, page 621 (Circuit Court of Appeals).

Two more points of importance remain to be considered.

When is weight to be given and how much importance is to be attributed to affidavits filed showing that a device has gone into extensive use by the public and superseded others of its kind?

The Circuit Court of Appeals for the Eighth Circuit, in its decision in Boss Manufacturing Co. *vs.* Thomas (C. D., 1911, page 456), said:

> "In doubtful cases, the fact that a patented article has gone into extensive or general use is evidence of its utility; but that is by no means conclusive of its patentability. When there is no invention, the extent of its use is a matter of no importance."

It is significant to note that the United States Supreme Court in most of its utterances on the subject says this sort of evidence can be availed of where the question of patentable *novelty* is in doubt.

For instance, in Potts *vs.* Creager, *supra,* the court said:

> "Where the question of novelty is in doubt, the fact that the device has gone into general use, and displaced other devices employed for a similar purpose, is sufficient to turn the scale in favor of the invention."
>
> See, also, McClain *vs.* Ortmayer, and Topliff *vs.* Topliff, *supra.*

Another decision which uses the term "invention" in place of "novelty," is Star Brass Works *vs.* Gen'l. Electric Co., 111 Federal Reporter, page 398 (Circuit Court of Appeals).

From the decisions, it seems fair to deduce that the Examiner should be careful not to give too much weight to this kind of evidence. In Ex parte Flomerfelt, C. D., 1896, page 59, Mr. Commissioner Seymour said:

> "Where the patentability of a device is not clear, extensive sales may resolve the doubt of patentability in favor of an applicant. This, however, is an unsafe criterion and must be cautiously applied."

That the fact of large sales is an unsafe criterion in determining the question of patentability was specifically stated by the Supreme Court in Duer *vs.* Corbin Cabinet Lock Co., C. D., 1893, page 334.

The last point I wish to touch upon is this: The Examiner is frequently urged to resolve all doubts in favor of the applicant. The case is usually very nearly "in extremis," when this argument is resorted to.

There appear to be certain circumstances where this argument is proper and should be given weight.

The Circuit Court of Appeals of the First Circuit, in Simonds Rolling-Machine Co. *vs.* Hathorn Manufacturing Co. (C. D., 1899, page 421), said:

> "On a question of anticipation if the identity of methods and results is doubtful, the doubt must be resolved in favor of the successful patentee who has in a practical way materially advanced the art."

From this it appears the Examiner may properly resolve all doubts in favor of the applicant, where, for instance, the disclosure of the invention in an alleged anticipating reference is incomplete or obscure, necessarily leaving the Examiner in doubt as to the identity of the reference with the invention claimed.

It does not follow that all doubtful cases involving the separation of invention from mechanical skill should be decided in favor of the applicant. It should be remembered that the burden of proof is upon the applicant to establish the patentability of the invention as claimed. Durham *vs.* Seymour, Commissioner of Patents, C. D., 1895, page 307.

In conclusion it may be said that the discussion above is thought sufficient to make clear that the presence of invention as an element of patentability is imperative; that the difficulty of distinguishing invention from mechanical skill is frequently great and demands careful thought; that the marked out "flats and shallows of mechanical skill" should be reviewed for purposes of comparison; that the object an inventor has in view is important; that the actual result he attains is even more so; that simplicity does not negative invention, and that reorganization of parts with a view to simplification is likely to evidence invention of a high order.

If the above consideration of these or other features shall be useful to the Examiners in deciding the case entitled "INVENTION *vs.* MECHANICAL SKILL," the purpose of this paper will be fulfilled.

READ NOVEMBER 12, 1914.

18

EX PARTE EAGLE, C. D. 1870, PAGE 137

A paper read November 19, 1914, before the Examining Corps of the United States Patent Office

BY

F. D. HASKELL,
First Assistant Examiner, Division Nine,
U. S. Patent Office.

WASHINGTON, D. C.
1918.

Ex Parte Eagle, C. D. 1870, Page 137.

By

P. D. HASKELL,

First Assistant Examiner, Division 9,
United States Patent Office.

This familiar and useful decision is based upon a case presenting as its subject-matter a mere blacking-box. Under it an applicant may disclose two or more modifications or species of his invention, may have a generic claim as broad as the state of the art will permit, and specific claims limited to one of the species presented. He may not, however, cover in terms more than one species. While the humble invention of the case to which the decision relates sufficiently illustrates the rule thus laid down, it is to be regretted that a more complicated structure such as a machine was not involved, for in that case the decision might have gone a step further and prescribed the number of modifications an applicant might disclose as well as the number he might specifically claim. It is the purpose of this paper to call attention to the abuse of this privilege of disclosing a number of modifications and of retaining them in the case provided they can all be covered by a patentable generic claim.

The decision calls only for the elimination of inconsistent claims, and not for the cancellation of the corresponding subject-matter. There is nothing in the rules or decisions to prevent an applicant from showing, describing, and claiming, say, five complete and complicated machines, printing presses, for example, providing they constitute modifications or species of some generic invention. The claims may or may not conform to the Eagle decision; if they do, there is no requirement to be made as to the number of modifications; if they do not, a requirement for election as to the groups of specific claims is in order, but none of the modifications will be eliminated provided there be the patentable generic claim. In such a case as this, the assistant examiner must read the specifications of five heavy machines, whereas he ought not to be compelled to read the specifications of more than two, since the genus would be sufficiently illustrated and the preferred species also disclosed.

It is believed that a considerable part of the time of the office is consumed in reading the specifications of modifications presented in excess of this number, which would be saved by an extension of the Eagle decision or by a new rule of practice which forbade this excess. It must be remembered that the descriptions of these modifications must be read (and often studied) initially whether they ultimately remain in the case or not.

A cursory examination of a single class, namely 138, Hydraulic Motors, showed twenty cases disclosing more than two modifications, each modification constituting a more or less complicated structure or machine. These cases, however, represent only the residuum of about eight years; so that the total number of such cases in that time was probably three or four times as many, or from five to ten a year. Moreover, troublesome controversies with the applicant not infrequently arise as to whether a given modification is or is not covered by the generic claim. For various reasons applicants are reluctant to cancel figures or drawings together with the corresponding descriptive matter when required to do so by the office upon the ground that they are not covered by the generic claim, and seek to retain the matter in the case by contending that the requirement is not well taken, or by contending for far-fetched, loose, or otherwise objectionable interpretations of the terms of the claim relied upon as generic. It may be remarked *obiter* that the burden, which is laid upon the Examiner, of criticising specifications and claims of applications as to their technical, literary, and legal sufficiency is one of the reasons why more progress is not made with the work.

It is said that modifications are useful as enabling the judge in an infringement suit better to appreciate that a given invention may be embodied in a variety of forms, but one additional example should be as enlightening in this respect to an intelligent judge as a dozen. Therefore it is thought that it would involve no hardship upon applicants if they were required to limit their disclosure to two modifications at the most.

As to the authority of the Commissioner with the approval of the Secretary of the Interior to make such a rule there would appear to be little doubt. The rule would be one of expediency, and would be analogous to Rule 42, which provides for the division of an application when two or more independent inventions are presented, or to Rule 36, which requires specifications and drawings to be restricted to the invention, which means the elimination of modifications not covered by any claim. If the office under *Ex parte* Eagle may limit the number of modifications which may be specifically claimed, if under Rule 42, it may limit the number of inventions, which may be claimed in a single application, and if under Rule 36, it may require the cancellation of figures or sheets of drawings not covered by the claim, it would also appear to have authority to restrict to a reasonable number the modifications or species by which an applicant seeks to illustrate his invention.

November 19, 1914.

Harry J. [illegible]

19

The Marginal Claim, With Respect to the Requirement of Invention

A paper read November 19, 1914, before the Examining
Corps of the United States Patent Office

F. M. TRYON,
Principal Examiner, Division Nine,
U. S. Patent Office.

WASHINGTON, D. C.
1914.

[illegible]

The Marginal Claim, With Respect to the Requirement of Invention.

By
F. M. TRYON,
Principal Examiner, Division 9,
United States Patent Office.

Decisions of the courts undoubtedly establish the generic rule that subject-matter, to be patentable, must require invention as distinguished from mechanical skill. That is the answer of the courts to a question of law. They also establish certain rules, viz: the rule concerning double use, that concerning choice of material, that concerning aggroupments of elements, that concerning the substitution of one element for another in an old combination, and others less widely applicable—which are subsidiary to the rule requiring invention, stating classes of cases instead of merely individual cases in which invention is or is not found. I cite these subsidiary rules, which are all familiar. Decisions relating directly and in terms to the distinction between invention and mechanical skill are also familiar. The marginal claim presents a question to the decision of which no one of the subsidiary rules is by itself unmistakably applicable or adequate. We are therefore driven back to the fundamental rule requiring invention, to be employed as a guide in the application of, or instead of, the subsidiary rule. Further, since neither the presence nor the absence of invention unmistakably appears without further inquiry, we are driven back to consideration of the grounds for the distinction between invention and mechanical skill.

What *is* invention in the sense of the patent law? That is a question of fact arising in consequence of the interpretation of the law. Nearly related to it is the extralegal question, what is invention irrespective of the patent law, and not confined to the useful arts? If a satisfactory answer to the latter question can be found it may throw light upon the former. But in considering it we have to remember that any conclusion reached can not alter the meaning of the law as interpreted by competent legal authorities, however it may aid us in comprehending that meaning.

The definition of invention which can be derived from the decisions is the definition of its antithesis, mechanical skill, as the devising of what can be devised by a person ordinarily skilled in the art from his knowledge of the art, anything otherwise patentable which can not be so devised being patentable invention. This leaves what can be accomplished by mechanical skill undefined, to be determined by experience. Supplementary to this definition we find in the decisions examples of invention and of mechanical skill, and we find definitions or partial definitions of certain classes of subject-matter which are one or the other, and we find some statements concerning the character of invention. It has been said that invention is the exercise, or the result of the exercise, of the inventive faculty, which would be a direct definition of invention if we had an authoritative definition of the inventive faculty. The ordinary double use, the ordinary substitution of material, the aggregation, the substitution for an element in a combination of its equivalent element, are not inventions; the exceptional double use, the exceptional substitution of material, the true combination, the substitution for an element in a combination of another element not its equivalent, are inventions.

Upon reviewing the examples of invention passed upon, it can be readily seen that each is the material embodiment or physical expression of an idea of an adaptation or adjustment of means to ends. The patentable machine, article, substance, or process is patentable because of its suitability to perform a certain useful function, additional conditions being satisfied. The inventive idea embodied or expressed in each involves the idea of means, which I take to be the idea of the thing, or of the act or series of acts in a process, plus the idea of its employment for a useful purpose. Upon reviewing examples of mechanical skill we find that they also are essentially adaptations or adjustments of means to ends, each involving an idea of means. Both invention and mechanical skill consist essentially of the adaptation or adjustment of means to ends. If we look beyond the range of the patent law, seeking the character of what may be called either invention or skill in human affairs generally, examining them simply as practical experience, we soon perceive that the adaptation or adjustment of means to ends is the vital feature of all rational human activity. How then is patentable invention to be distinguished from mechanical skill, or from anything which any person can rationally do? Perhaps by the term "original," defining invention as original adaptation or adjustment of means to ends. But if we apply thorough analysis to the various instances of adaptation or adjustment of means to ends, mechanical or other, we shall find that an element of originality is embraced in every one of them. All human activity is, to some greater or less extent, original. Of course, in many instances the element of originality would be regarded by any instructed person as negligible in the application of the patent law. But at what point in the series of instances does that element become significant?

Invention, defined merely by examination of practical experience and without reference to the interpretation of the patent statute, appears to be any rational adaptation or adjustment of means to ends. Such examination shows that the inventive faculty is simply the faculty of thinking, which may have a so-called "creative" or a merely adaptive character, applied to the adaptation or adjustment of means to ends. To interpret the term "invented" in the statute as including all which lies within this fundamental concept of invention and also within the field of patentability would make the statute absurd, because it would apply to the most commonplace act of any mechanic which happened to be new according to the most minute analysis. Obviously the legislators had in mind inventions which differed from what was before known to some substantial degree. But what constitutes a substantial degree of difference?

The essential character of a patent is that of a contract under which the inventor is given the exclusive right to make, use, and sell certain carefully defined things or processes in which his inventive idea is embodied or expressed for a given period and the inventive idea will be free to the public after the expiration of that period. Grant *vs.* Raymond, 6 Peters, 218. Thus the public buys the invention. But there is no reason for the public to buy the invention if already in possession of it. Therefore the law says that the invention must be new to be patentable. There is no reason for the public to buy the invention if it be potentially in possession of it. The public is potentially in possession of the invention if it be within the reach of its ordinary resources, irrespective of the effort of any given inventor. That occurs when the invention lies within the reasonably expectable improvement of the art which is incidental to its ordinary intelligent practice. Here we find the reason for making a distinction between invention and mechanical skill. In view of the mode of payment, the public can afford to buy, and ought to pay for if it uses, any invention offered which is not already in its possession, actually or potentially. The nimble anticipator of the incidental improvement has nothing to offer the public which the public needs, or in justice ought, to buy. Atlantic Works *vs.* Brady, 23 O. G., 1330; General Electric Co. *vs.* Winona Interurban Railway Co., 170 O. G., 706.

From the reasoning herein adopted it appears that every rational adaptation or adjustment of means to ends is an invention according to the untechnical definition of the term, that if any such invention be new and useful and lie within the field of patentability it is patentable unless it comes within the restriction upon patentability imposed by the authoritative interpretation of the law, and that that restriction consists in the requirement that the invention must transcend the reasonably expectable improvement in the arts which is incidental to their ordinary practice.

The difficulty presented by the marginal claim resides especially in estimating the reasonably expectable incidental improvement, which is the indefinite factor of the problem. Involved in this is the difficulty of estimating the value of differences which are neither palpably substantial nor palpably negligible. The difficulty can not be entirely eliminated; perhaps it can be cornered into some narrowly restricted field of thought.

Two comparisons are involved in the decision. The first is between what is stated in the claim and what is found to actually exist in the prior art. In this comparison we have two definite terms, and the difference between them can be definitely found. The second comparison is between that difference and the expectable incidental improvement, and in that comparison the second term is not definitely given.

Every adaptation or adjustment of means to ends, from a great product of inventive genius such as the wireless telegraph to, say, the process of building a box, has three factors, viz: the means employed, the end accomplished or function, and the relation of utility which subsists between the means and the function. By function, I mean the immediate function, not some ulterior utility. This analysis is gross, but I think it covers the ground in a generic sense. Neither means nor function is always quite simple, and the relation of utility may admit of analysis into elemental relations. Sometimes the immediate function is so associated with the ulterior purpose that it can not be perfectly appraised until that purpose has been taken into account. Either factor may be found in the first comparison to be actually new, to some greater or less degree. We have to find by the second comparison whether the novelty is substantial, i. e., required invention, i. e., transcends the expectable incidental improvement. If the means, which may be an individual thing or act or a combination of things or acts, be substantially new, we have the most common case of patentability. If the means be not substantially new, but the function be substantially new as compared with any function known in the prior art, we have the case of an invention which is undoubtedly patentable under the rule concerning double use. If the means be old, and the function also be old but only as the function of some other means, we have to consider whether the relation of utility thus presented is substantially different from the relation of utility disclosed in either the nearest reference showing the means or the nearest reference showing the function. This case necessarily involves some difference between the relation of utility in the invention claimed and the relation of utility in any prior invention. If that difference be found substantial, we have the case of patentability under the rule concerning double use, or, what comes to the same thing in particular classes of cases, under the rule concerning substitution of material or that concerning the substitution of one element for another in a combination. The substitution of an old material or element is the double use of that material or element for a function new in its use, but in itself old, viz: the function of the material or element which it replaces. If either means or function be new, there is necessarily actual novelty in the relation of utility. Thus in every instance of actual novelty there is some novelty in the relation of utility. That relation is the characteristic feature of an adaptation or adjustment of means to ends. In one of the three classes of cases some novelty in that relation necessarily exists. Can we make substantial novelty in that relation the test of patentability in all three classes of cases? We can if substantial novelty in either means or function necessarily implies novelty which is substantial in the relation of utility. When there is decided novelty in the means there can scarcely be doubt of substantial novelty in the relation of utility. In the doubtful case a trifling novelty in the means is found. We have to decide upon cases in which the novelty in the means, considered merely as a novelty in structure, or in an act or series of acts, is of little or no consequence and clearly unsubstantial, but in which if we consider the thing or act not merely as a thing or act but with reference to its function, the novelty found is appreciable and may support the conclusion of patentable invention. If we find that it does support that conclusion we find substantial novelty in the means dependent upon substantial novelty in the relation of utility and make the latter the decisive test. I believe that to be the principle which will explain, and render consistent with the general tenor of decisions, the entire series of decisions in which means have been found patentable when the novelty residing therein appears to be insignificant. But is not substantial novelty in the relation of utility always the decisive test of the patentability of novel means, although we do not always find it necessary to give special attention to the point? A novel means is patentable *because* of its suitability to perform a certain function; in other words, because of the relation of utility. Substantial novelty in the relation of utility is precisely what makes the novelty of the means substantial. If there be any claims to which that test is not applicable the so-called purely structural claim is one; i. e., the claim which states a device of old kind performing the function performed by all devices of that kind but having an improved construction, the novelty being of no consequence to that function, but having a collateral utility, say cheapness. In that case we must consider the feature or features of novelty in relation to the collateral advantage, which is its or their function. I do not think that we can find the construction patentable without finding substantial novelty in the relation of utility between the novel feature or features and the collateral advantage. The dependence of the patentability of an adaptation or adjustment of means to ends in which only the function is new upon the substantial novelty of the relation of utility is, in my view, not more real, but more readily obvious.

I believe that the solution of the problem presented by the marginal claim can be reduced to a comparison of relations of utility. In support of that conclusion, and of the view herein taken of the bearing of the fact that a patent is essentially a contract, I cite the lectures delivered last winter before the law class of Georgetown University by Commissioner Ewing.

But what novelty in the relation of utility is necessary to transcend the expectable incidental improvement? Perhaps we shall find that the mere location of the essential novelty in that relation goes far to answer that question.

It is, very fortunately, true that the generality of men, working more or less together, can apply what they know to useful purposes in very multifarious ways. Thus is the business of human life carried on in all fields of activity, including the practice of the useful arts. Mechanical skill can apply its knowledge with indefinitely extended variation in the mere association of items of that knowledge. The mechanic, or the educated engineer or designer, may usefully apply in practice known facts in indefinitely extended multiplication and permutation without transcending the expectable incidental improvement. In that a certain measure of ingenuity and originality is involved.

The independently definable items of knowledge within the field of patentability concern things or acts which may become means, and desired ends which may become functions of means. That knowledge also includes associations of means with functions in known ways. Mechanical skill can, and constantly does, variously associate known means with known means, and known functions with known functions, in unitary operations or in the service of single ulterior purposes, according to circumstances. If it also associates a known means with a known function in a new association but in a known way of associating it is still only intelligently selecting and applying, according to circumstances, the known resources of the art. Obviously the elements involved in all the possible permutations include means, functions and relations of utility, and if all the elements involved in a given association are known we have in it only what mechanical skill can accomplish, according to experience in all human activity. It is also clear, both according to that experience and according to the decisions in patent cases, that an actual novelty which lies within mechanical skill may exist in an element of either kind.

But if the inventor has produced a new means, or has discovered a new function, or has employed an old means for an old function according to a new mode of association, the novelty in each instance being more than negligible, he has, according to experience in human activity in general, transcended mechanical skill however well instructed it may be. The pertinent lessons of experience, contemporaneous and historical, in all fields of human activity, are, the facility with which permutations of items of established knowledge can be effected, and the difficulty, sometimes astonishing after the fact, which attends the discovery and establishment of any, even a small, really new item. In the latter experience the so-called "creative" character of thinking appears.

Aside from combinations, either a means or a function which is substantially new upon its own account is rare. If either be presented a substantially new relation of utility is sure to exist somewhere. The collateral question as to where the invention resides, in a choice of new material or in the material itself, in an aggroupment of elements one of which is new or in that element itself, and so on, may be answered by finding the new relation of utility. In the general run of cases, including combinations and aggregations, the things or acts which may become means or elements in means and the desired ends which may become functions are items, often familiar, in preestablished knowledge. The substantial novelty, if any, resides in the association of those things or acts in a combination, or in the association of the means with the function. According to general experience in human affairs, including experience in the useful arts, if either association be mere association, involving only the application of two or more items of knowledge, or a mere copying of some analogous association, it lies within the range of mechanical skill, otherwise not. Let us see if this agrees with the rules established by decisions.

Under the rule concerning aggroupments of elements, when the unifying relation between the elements grouped is nothing more than that of mere association, so that the aggroupment produces no other result than the use together of those elements, each performing its usual function and no more, the aggroupment is not patentable. The fact of association as well as the elements associated may be embodied in a unitary structure or expressed in a unitary series of steps without avoiding the rule, as in Reckendorfer *vs.* Faber, 10 O. G., 71. But when the aggroupment establishes a unifying relation between the elements which embraces something more than mere association, so that the function of the aggroupment is something other than the mere sum of the functions of the elements as they might separately act, whereby what is sometimes called a new mode of operation is introduced, the differences from the prior art not being negligible, the aggroupment is patentable. I take it that such is the rule whatever analysis of any given instance may show to be the character of that in the unifying relation in that instance which distinguishes it from mere association. Thus in the patentable combination a new relation of utility is introduced, which makes it a substantially new means. As being in harmony with this view, I cite *Ex parte* McCullom, 204 O. G., 1346.

Under the rule concerning the substitution of one element for another in an old combination, when the element substituted is an equivalent for the element replaced, an equivalent being a device known to have, or obviously having, the function which the element replaced has in the combination, the resulting new combination is not patentable, but when the element substituted is not an equivalent, the new combination is patentable. In the former case no new item is added to knowledge. In the latter case a new item is added, it being the knowledge of the relation of utility between the substituted element and its function in the combination.

The rule concerning the substitution of materials is parallel to that concerning the substitution of elements, its peculiarities being only such as result from the character of the combination and its ingredients.

The rule concerning double use has reference to cases involving only the novel association of means and ends. The association is unpatentable when it does not, but is patentable when it does, add a substantially new item to knowledge. The latter may occur when the function is substantially new, or when the function is old but the relation of utility is nevertheless substantially new.

I have not described or defined the relation of utility beyond the implied statement that it is the relation subsisting between two terms, means and function, when they are associated and utility results from the association. I think that we should rest upon that definition, without undertaking any more particular description as necessarily applicable in all cases. The relation of utility appears in some discussions of combinations and aggregations as "mode of operation," and that description seems apt in the cases in which it is employed. Perhaps thorough analysis would show that it might be applied in all cases. Every thing or act employed as a means or as an element in a means is so employed because of some natural property which it possesses which renders it capable of use for performing some action, or for some purpose which is useful with reference to an action. That property may be called its mode of operation, or its contribution to the mode of operation of a combination in which it is an element. But it may be doubted whether that description is fairly applicable in every instance of patentable double use or substitution. Does every *new* relation of utility involve a *new* mode of operation of something? If we should find a substantially new relation of utility according to the broader definition which did not involve a new mode of operation we would nevertheless find patentable invention.

The degree of novelty in the relation of utility which is necessary to confer patentability is the element in the problem which is not reducible to general rule. It must be substantial, not negligible. It must be distinguishable from mere association of its terms by constituting an item of knowledge not attainable in the course of the incidental improvement of the art. If the solution of the problem presented by the case in hand can be run to cover by an application of generic rules based upon sound analysis of the general topic, it can only be finally caught by the exercise of specific judgment addressed to the individual case.

This paper is submitted in the conviction that it contains a sound, and I hope a useful, generalized interpretation of all the decisions which pertain to patentable novelty, reading each in comparison with the others and in view of the facts to which it was applied. In my view they are all pertinent as illustrations. They all follow a substantially uniform line of reasoning, variously applied to individual cases. An excellent selection, with analyzing discussion, is contained in Mr. Tucker's paper on "Invention *vs.* Mechanical Skill." I regard as especially instructive the decisions relating to double use, and those in which slight novelty in means was found patentable because of distinguishing novelty in function, which must, of course, be read in comparison with others in which an adverse conclusion was reached. I cite below a few decisions deemed especially in point as illustrations, viz: Ex parte McCullom, supra; Atlantic Works *vs.* Brady, supra; Webster Loom Co. *vs.* Higgins, 21 O. G., 2031; McClain *vs.* Ortmayer & Son *et al.*, 42 O. G., 724; Ansonia Brass & Copper Co. *vs.* Electrical Supply Co., 58 O. G., 1692; Topliff *vs.* Topliff, 59 O. G., 1257; Potts *vs.* Creager, 70 O. G., 494; Consolidated Electric Mfg. Co. *vs.* Holtzer, 72 O. G., 415; Mast, Foos & Co. *vs.* Dempster Mill Mfg. Co., 82 O. G., 338; Hobbs *vs.* Beach, 94 O. G., 2357; Westinghouse Electric Mfg. Co. *vs.* Allis-Chalmers Co., 158 O. G., 482; Diamond Rubber Co. *vs.* Consolidated Tire Co. and Rubber Tire Wheel Co., 166 O. G., 251; *In re* Moulton and Jones, 191

O. G., 588; National Tube Co. *vs.* Mark et al., 209 O. G., 329.

I suppose that the words "invented or discovered" in the statute were intended to designate an act which has, in its intellectual aspect, the character called by Robinson "creative" in contradistinction to "merely imitative." The statute must always be construed as applying to the things and acts designated in it. Experience may improve our understanding of the natural character of those things or acts. Since the first patent statute was enacted we have had an enormous amount of pertinent experience, in which improvements requiring but a moderate degree of ingenuity bulk large, and in which the very great aggregate value of such improvements, and their dependence upon something more than what is incidental to the intelligent practice of the arts, are shown. That experience also throws a strong light upon the natural character of the act of invention which the statute designates. I believe that, in the light of accumulated experience, we can see that the creative activity designated by the statute amounts to invention in the fundamental sense herein stated minus the expectable incidental improvement, and that it is manifested when a substantially new item of knowledge is embraced in its result. Clearly, the legislators were vastly more interested in the improvements which inventors would achieve than in the character of the mental process required for the achievement. I think that the minds of the legislators and the minds of the judges came together upon the proposition that what is not mechanical skill is invention, and that mechanical skill is but another name for the expectable incidental improvement.

November 19, 1914.

20

The Oath Required by Rule 46

by

Lester B. Mann,
Third Asst. Examiner, Division Ten
U.S. Patent Office

Dec. 3, 1914.

Journal of the Patent Office Society

Vol. 5 No. 2 Page 672

Paper No. 20

20

The Oath Required by Rule 46

A paper read December 3, 1914, before the Examining Corps of the United States Patent Office

BY

LESTER B. MANN,
Third Assistant Examiner, Division Ten,
U. S. Patent Office.

T. H. MITCHELL, *Principal Examiner.*

WASHINGTON, D.C.
1914

The Oath Required by Rule 46

By

LESTER B. MANN,
Third Assistant Examiner, Division Ten,
United States Patent Office.

OATH ORIGINALLY NOT NECESSARY.

Originally patents were granted on a petition to the Secretary of State, the Secretary of War, and the Attorney-General; and no oath of any kind was necessary, unless there was opposition. The Statute of 1793, was the first to require an oath to accompany the application and provided, "That every inventor before he can receive a patent, shall swear or affirm, that he does verily believe that he is the true inventor or discoverer of the art, machine, or improvement for which he solicits a patent." This was superseded by the Statute of 1836, under which the oath became enlagred and partook somewhat of its present form. Article 6 in part reads:

> "The applicant shall also make oath or affirmation that he does verily believe that he is the original and first inventor or discoverer of the art, machine, composition or improvement, for which he solicits a patent, and that he does not know or believe that the same was ever before known or used; and also of what country he is a citizen. . . ."

This statute had the peculiarity that, after search had been made and references cited, if the applicant elected to withdraw his application, he was entitled to receive back twenty dollars, part of the fee paid; but if he continued the prosecution he was required to "make oath or affirmation anew in manner as aforesaid" (Art. 7), whether he altered the specification or not. Presumably, the theory was that the applicant's knowledge or belief might be modified, by the art revealed in the search, to such an extent that he would be unable to make the necessary averments laid down in the law.

The next change in the oath was made by the Consolidated Patent Act of 1870, Article 30 of which was word for word like the present Section 4892 of the Revised Statutes, except as to the persons before whom the oath could be taken. It also had articles corresponding to Sections 4886, 4887, etc., of the Revised Statutes, by which it was replaced in 1874.

OATH A PREREQUISITE TO GRANT.

There are a number of cases reported where the courts have refused to hold a patent void although the application papers contained either no oath at all or none that was valid. But that is no reason why the Office should be lax in enforcing the requirements of the law; for in these cases the courts have proceeded on the theory that, inasmuch as an oath is a prerequisite to the granting of a patent and the patent states that all the requirements have been complied with, it is presumed to have been made. Mr. Walker says:

> "It is presumed that the Commissioner will never issue a patent till he is satisfied that the applicant has somehow made oath to the facts to which the statute requires him to swear" (Walker, 4th Ed., p. 105).

Such a presumption was made in Hancock Inspirator Co. v. Jenks (21 F., 913), where the court said:

> "There is nothing in the act requiring this oath to be in writing, and . . . it is possible that the patentee appeared personally before the Commissioner and made the required oath in his presence."

Cyclopedia of Law and Procedure is in harmony with this view:

> "A patent is not invalid merely because no written oath appears among the papers of the record, since it is presumed that an oath was taken" (30 Cyc., 888).

So also is American and English Encyclopedia of Law:

> "A recital in the patent that the required oath was taken is conclusive, in the absence of fraud" (A. and E., 2d Ed., vol. 22, p. 364).

Cyclopedia of Law and Procedure also considers the oath a prerequisite:

> "It is provided by statute that the applicant must make oath that he believes himself to be the original and first inventor, etc., and on construing this statute it has been held that the taking of the oath is but a prerequisite to the granting of the patent and in no sense essential to its validity" (30 Cyc., 888).

The illustrious William Wirt put a similar construction on the law:

> "My opinion is, that the law is imperative; and that no patent can issue in the case until Mr. Duplat shall have taken the oath in the terms in which it is prescribed by Congress" (1 Op. Atty. Gen., 332).

MADE BY THE INVENTOR.

From the very nature of the averments to be made it would seem evident that the inventor, as long as he is alive and sane is the only proper person to make the oath; but ever-experimenting man is continually attempting to have some other perform that duty.

Apparently the earliest authority on the subject is the opinion of the Attorney-General in 1861 construing the statute of 1836. This opinion is somewhat elaborate and only the last paragraph is quoted:

> "In the present case the oath required is eminently one of substance. It compels the applicant to assert two facts, which necessarily can only be within his own personal knowledge, viz: that he believes he is the original inventor of the thing proposed to be patented, and that he does not know or believe that the same was ever before known or used. It is impossible that these facts can be originally known to any one but the inventor, and if they are sworn to by his agent or attorney, the evidence is nothing but hearsay. I can imagine no inconvenience which would excuse so wide a departure from the language and purposes of the act of Congress, and I am, therefore, of opinion that the oath prescribed by the 7th section must be taken by the applicant, and can not be taken by his agent or attorney" (Op. At. Gen., vol. 10, p. 137).

In 1888 the Supreme Court expressed a similar opinion in Kennedy *vs.* Hazelton (C. D. 1889-349). It said:

> "The patent law makes it essential to the validity of a patent that it shall be granted on the application, supported by the oath, of the original and first inventor (or of his executor or administrator), whether the patent is issued to him or to his assignee."

There is nothing in this decision inconsistent with those cited above. The patent in suit was fraudulently obtained in the name of a third person and assigned to the inventor to avoid an agreement to assign any such improvements to the plaintiff. The fraud overcame the presumption that the proceedings in the Office were regular and allowed the court to go behind the grant.

Commissioner Duell recognized the authority of this in *Ex parte* Tropenas (90 O. G., 749; C. D. 1900-14), where it was sought to have a petition, specification, and oath executed by the inventor before the United States Consul in Paris on October 26, 1899, substituted for those executed by his attorney and filed October 27, 1899, to enable applicant to obtain an application date of October 27, 1899, and thereby avoid the running of the statute set in motion by the issuance of a foreign patent. He held that the papers executed by the attorney could not be treated as forming any part of a valid application.

Ex parte Tropenas was followed by Assistant Commissioner Chamberlain in *Ex parte* Richards (95 O. G., 1853; C. D. 1901-46), where it was sought to file a supplemental oath executed by the assignee instead of the inventor. He said:

> "Such an oath can not be accepted since the law does not authorize the execution of the oath by any one save the inventor as long as he is alive."

Moreover, this situation seems to be covered by Section 4895 of the Revised Statutes (Sec. 33, Act 1870), which provides that:

> "In all cases of an application by an assignee for the issue of a patent, the application shall be made and the specification sworn to by the inventor or discoverer. . . ."

"Sworn to" here, of course, refers to the original oath, but as a supplemental oath is to cover matter disclosed but not substantially embraced in the statement of invention and original claims, it must necessarily be made by the inventor if alive and sane. For, as said by Commissioner Mitchell in *Ex Parte* Lillie (53 O. G., 2041; C. D. 1890-181):

> "The statute (Sec. 4892) and the corresponding rule (46) imperatively require that when a patent is granted all the claims shall be warranted either by the original oath or by some supplemental oath of the applicant."

Again in *Ex Parte* McCoy (80 O. G., 2037; 1897-74) the sufficiency of an assignee's oath was tried. Here the inventor executed the oath on September 1, 1894, and assigned the application to one Hodges at about that time. He reexecuted the oath on November 3, 1894; but the application was not filed until April 4, 1896, when it was accompanied by the assignee's affidavit attempting to make the required averment with reference to public use. The examiner refused to consider the affidavit as an additional oath under Rule 46. The Commissioner said:

> "In regard to this question it is noted that neither the statutes nor the rules make any provision for the filing of an oath to an application by any party other than the inventor so long as he is alive."

When the inventor dies or becomes insane Sec. 4896 of the Revised Statutes allows his Executor or Administrator, or his guardian, conservator, or representative in trust, as the case may be, to make application in his stead. It reads:

> "When any person, having made any new invention or discovery for which a patent might have been granted, dies before a patent is granted, the right of applying for and obtaining the patent shall devolve on his executor or administrator, in trust for the heirs at law of the deceased, in case he shall have died intestate; or if he shall have left a will disposing of the same, then in trust for his devisees, in as full manner and on the same terms and conditions as the same might have been claimed or enjoyed by him in his lifetime; and when any person having made any new invention or discovery for which a patent might have been granted becomes insane before a patent is granted the right of applying for and obtaining the patent shall devolve on his legally appointed guardian, conservator, or representative in trust for his estate in as full manner and on the same terms and conditions as the same might have been claimed or enjoyed by him while sane; and when the application is made by such legal representatives the oath or affirmation required to be made shall be so varied in form that it can be made by them. The executor or administrator

> duly authorized under the law of any foreign country to administer upon the estate of the deceased inventor shall, in case the said inventor was not domiciled in the United States at the time of his death, have the right to apply for and obtain the patent. The authority of such foreign executor or administrator shall be proved by certificate of a diplomatic or consular officer of the United States.
>
> "The foregoing section, as to insane persons, is to cover all applications now on file in the Patent Office or which may be hereafter made." As to the change of form, see Walker, 4th Ed., 123.

VENUE.

The provision for a formal statement of venue, in the blank forms in general use, is in compliance with a very ancient custom, probably founded on good reason. But the failure to fill in the state and county or district, as the case may be, does not appear to be a fatal defect now, provided the seal shows the jurisdiction of the officer before whom the oath is taken. At least, this seems to be a fair deduction from Prym *vs.* Heilbruner (81 O. G., 2245; C. D. 1897-192). This case involved a preliminary statement affirmed before Acting Counsel Madden, at Cologne, Germany, but having no statement of venue. A motion to strike it out for irregularity was denied by the Examiner of Interferences and on appeal, the Commissioner said:

> "The venue is one of the formal requisites of an affidavit. It states the county or district in which it is taken, and is *prima facie* evidence that it was taken in such place. In the older practice it was deemed so essential that without it the affidavit was treated as a nullity. Later cases modify this rule. (Enc. of Plead. & Prac., vol. 1, p. 313.) One of these cases is that referred to above. The purpose of the venue is to show that the officer administering the affidavit acted within his jurisdiction. The majority of cases now hold that it need not conclusively appear on the face

> of the affidavit by venue that the officer acted within his jurisdiction. It would be presumed that he so acted if nothing appears to the contrary. (Same authority.)"

From the last paragraph of the case, however, it seems that the real ground for his decision was that the venue was included in the seal. It reads:

> "A presumption that the affidavit in question was taken by a proper officer at a proper place is established by the use of the consular seal, by means of which the words 'U. S. Consulate, Cologne, Germany,' were impressed into the body of the paper and thereby made a part of the permanent record. Sound reasoning and common sense would seem to indicate that this is the equivalent in all essential respects of the formal use of similar words at the beginning of an affidavit to indicate the county in which it may have been executed."

In the later case of *Ex parte* Delavoye (124 O. G., 626; C. D. 1906-320), where the omission of the venue was considered fatal by the Examiner. Commissioner Allen said:

> "No reason appears why proper evidence should not be furnished that the oath was administered within the territorial jurisdiction of the notary."

But there is nothing in the decision to indicate that he intended to overrule Prym *vs.* Heilbrunner or to direct the Examiners to require a formal statement of venue when the notary's jurisdiction appears in the seal.

However, if a venue is given it must not be inconsistent or at variance with the seal.

CITIZENSHIP.

The citizenship of the inventor was originally of no importance; the statutes provided that "any person" under the prescribed conditions could obtain a patent and required no statement as to citizenship. But under the statute of 1793 it became very material, for that law only made provisions for granting patents to citizens; and it was not until the amendment of 1800 that the privilege was extended to aliens. Again in the act of 1836 discrimination was made against aliens; and it was required that the applicant make oath "also of what country he is a citizen" (Sec. 6). This discrimination, however, was abolished in 1870 and apparently so remains to the present, since Sec. 4892 Revised Statutes is the same as Art. No. 30 of that Act in this regard. The situation under the later law was ably stated in Tondeur *vs.* Chambers (46 O. G., 110; 37 F., 333) where the defendant in an infringement suit set up that the patent was void "upon the ground that in the application for his patent the plaintiff made oath that he was a citizen of the U. S., which he was not," and cited Child *vs.* Adams (1 Fish, 189) to support it.

> "But" said the court "that case arose under and was govenred by the patent act of 1836, which allowed the grant of Letters Patent to aliens only upon peculiar conditions, to which citizens were not subject (5 Stats. at Large, 117). By that act the patent-fee payable by a citizen was $30 only, whereas an alien was required to pay at least $300, and if a British subject $500; and by the stringent language of the act the fee was to be paid before the application for a patent could be considered by the Commissioner (Section 9). Then, again, an alien patentee was compelled 'to put and continue on sale to the public, on reasonable terms, the invention or discovery for which the patent issued' (Section 15.) It was therefore, under that act of the highest importance that the applicant should truly disclose his citizenship, and Section 6 required that before any inventor should receive a patent he should 'make oath . . . of what country he is a citizen.' The decision cited was expressly put upon the ground that an alien, whether through ignorance or intention, falsely swearing that he was a citizen in order to procure a patent not only failed to perform a condition upon which his right to a patent depended, but committed

> a fraud upon the Government. But the law governing the present case— i. e., the patent act of 1870, as embodied in the Revises Statutes—abolished all such discriminations against aliens and placed them upon the same footing as citizens in respect to the grant of Letters Patent for inventions, and the enjoyment of the privileges thereby secured (R. S., Secs. 4886, 4920, 4934). Therefore, under the law as it stood when the plaintiff applied for and obtained his patent, the mistake in his statement as to his citizenship operated. and could operate, neither to his advantage nor to the detriment of the Government or the public. Furthermore, it is well worthy of notice that while Section 4892 Revised Statutes requires the applicant for a patent to 'make oath that he does verily believe himself to be the original and first inventor,' etc., in respect to citizenship, the language is 'and shall state of what country he is a citizen.' This change in phraseology seems to be intentional and to dispense with the necessity of an oath as to citizenship. At any rate, the citizenship of the applicant for a patent is no longer a matter of any real importance, and a mistake touching the same is harmless."

The impression must not be gotten, however, that the statement of citizenship may be omitted; it is a statutory requirement and absolutely necessary (See *Ex parte* Benecke, 126 O. G., 3423; C. D., 1907-66). Nor is it sufficient to say that he has declared his intention of becoming a citizen of the United States (*Ex parte* Rhodes, 105 O. G., 1261) though a statement that he is not a citizen of any country is compliance with the statute (*Ex parte* Benecke, supra).

RESIDENCE.

Rule 46 requires the applicant to state where he resides; but in this it is not supported by the statute; and the want of such a statement would not warrant the Office in holding an application otherwise unobjectionable to be incomplete. In such a case, however, a new oath should be required (*Ex parte* Becker, 97 O. G., 1597; C. D., 1901-198).

ORIGINAL AND FIRST.

It is the intent of the United States patent law that patents shall issue only as a reward for progress made in the useful arts (Constitution, Art. 1, Sec. 8). Under its provisions the "true inventor or discoverer" (as he was defined in the first statute requiring an oath in the application, 1793), is the only person entitled to reward. And by "true inventor or discoverer" here is meant the man who in deed and in truth originated the art, machine, manufacture, etc., and brought it to light for the first time in the knowledge of the world, in contradistinction to bringing it into the realm as in England, or originating at a time subsequent to some other. The later laws adopted the words "original and first" in recognition of the fact that a man might originate the thing, in so far as his own knowledge was concerned and yet not be the first to do the act, and with the intention of excluding such secondary originator from the peculiar and special rights and privileges contemplated by the constitution. Therefore, the applicant's averment that he verily believes himself to be the original and first inventor or discoverer is of first and primary importance, for it his affidavit to these facts that establishes his *prima facie* right under the law to receive a patent for his invention; and unless he can make this portion of the oath it is useless to proceed further (*Ex parte* Hill, 16 O. G., 765; C. D., 1879-236).

JOINT AND SOLE.

The possibility of joint as well as sole invention seems to have been recognized from the earliest times of our patent system. The statute of 1790 provided for the grant of patents to "any person or persons;" and in the list of patentees under date of August 10, 1791, are found the names of John Biddis and Thomas Bedwell presumably joint inventors of "Making extract of barks." Certain it is that the term "joint" was current in 1836; for on page 1 of the rules in force in July of that year appears the following:

> "Joint inventors are entitled to a joint patent, but neither can claim one separately."

However, in the form of oath given on page 10 of those rules no reference is made to either "joint" or "sole" and the requirement in that regard did not appear in Rule 46 until July 31, 1906, though the forms used those words as early as 1871.

The statutes are silent on this question, but the rule requires that the applicant "shall state . . . whether he is a sole or joint inventor," and that rule has all the force and effect of law (Miller *vs.* Lambert, 72 O. G., 1903, and Revised Statutes, Sec. 483), and every part of it is material (*Ex parte* Leverstein and Naef, 110 O. G., 1726; C. D., 1904-217). It seems safe, therefore, to assume that this statement is a material and necessary part of every oath; but, from the wording of the Rule which puts it on the same footing as the statements as to residence and citizenship, apparently no actual averment is necessary. A careful search disclosed no decision on these points. However, in *Ex parte* Mygatt (160 O. G., 773; C. D., 1910-205), Commissioner Moore held that, while the omission of the word "sole" resulted in a defective oath, it did not render it invalid and warrant holding an application abandoned for failure to complete within the year.

Such an omission, would probably not invalidate a patent, for, as above noted, the courts will not go back of the grant to examine the papers except in cases of fraud; but a joint patent on a sole invention or a sole patent on a joint invention would be void (Walker, 4th Ed., Secs. 50 and 51).

The use of the word "sole" is not such a significant and material matter as would support an indictment for perjury under Section 5392 Revised Statutes (Patterson *vs.* U. S., 181 F., 970; U. S. *vs.* Patterson, 174 O. G., 287). And an oath by two people as joint inventors does not preclude either one of them from subsequently filing a sole application for the same invention if he should come into possession of information leading to the belief that he was in fact a sole inventor. Indeed, in such a case an interference may be declared for the purpose of determining whether the invention was made by one or by both jointly (Kohler *vs.* Kohler and Chambers, 43 O. G., 247; C. D., 1888-19).

For a short time under the rules of 1897 a sole application could be transformed into a joint application and vice versa, but a new application would be necessary now (*Ex parte* Erne and Bridges, 81 O. G., 2247; C. D., 1897-197; and *Ex parte* Gordon, 108 O. G., 561; C. D., 1903-20).

In a joint application the oath must be made and signed by both parties (In re Crane, 106 O. G., 999; C. D., 1903-332); but it is not necessary that they sign the same paper, each may sign and execute duplicate copies (*Ex parte* Wellman & Wellman, 88 O. G., 2065; C. D., 1899-176).

IDENTIFICATION.

When all parts of the application are filed at one time, there is generally no trouble on this score; for the papers are usually permanently attached together and the oath refers to the annexed specification for a disclosure of the invention about which its averments are made. But when the specification and oath are filed at different times, it almost always happens that the form of the latter has not been changed, and it refers, as usual, to an annexed specification, which in fact does not exist. The averments are, therefore, all about an unidentified invention, and without force or effect. Rules 10 and 32 "apply to an oath as well as to any other paper relating to or a part of an application." *Ex parte* Heusch, 88 O. G., 1703; C. D., 1899-172).

DOES NOT KNOW AND DOES NOT BELIEVE.

In the Patent Act of 1800 extending the privileges of the Law of 1793 to aliens, the applicant was required to make oath as to "the best of his or her knowledge *or* belief;" and likewise under the Statute of 1836 he swore that he did "not know *or* believe;" but in 1870 the language was changed to "does not know *and does not* believe" as it is at present. The positive reason for the change could not be readily ascertained, but it was apparently the intent of Congress to put applicants on oath as to both knowledge and belief. This was the opinion of Commissioner Allen in *Ex parte* Nicholson

(96 O. G., 1035; C. D., 1901-86) where instead of using the words of the law the applicant said:

> "I verily believe . . . that the said improvement was not known or used by others . . . ,"

and contended that the averment of belief was sufficient to comply with the statute. But the Commissioner said:

> "It seems clear to my mind that the framers of this Section 4892 intended to require the applicant for a patent to disclaim, first, his personal knowledge, and, second, his belief, which, in contradistinction to his knowledge, may be defined as that reasonable belief which is founded upon information derived from others, thus disclaiming two classes of means by which conviction is wrought. Thus considered as excluding personal knowledge and information and belief, the words of the statute have that vitality which should be expected from the fact of their use, and they are not construed as meaningless.
>
> "Those provisions of section 4892 are conditions precedent to the grant of a patent, and since such grant follows a course of statutory procedure resulting in the creation of a monopoly in derogation of the common-law rights of the public any failure to comply with these conditions would render the patent granted fatally defective. The only safe course is strict conformity, although some latitude in the use of terms may be permitted to cover the requirements of other portions of Rule 46, whereby the applicant is required to make for himself a *prima facie* case under sections 4886 and 4887, Revised Statutes."

Ex parte Buddington (84 O. G., 1728; C. D. 1898-184) was a similar case in which the applicant made oath to his knowledge, but said nothing about his belief, and the Commissioner said:

> "Section 4892 of the Revised Statutes distinctly requires that the applicant 'shall make

oath in regard to his invention 'that he does not know and does not believe that the same was ever before known or used,' and this Office has no authority to waive any positive requirement of the statute."

THAT THE SAME WAS EVER BEFORE KNOWN OR USED.

These are the words of Section 4892, Revised Statutes, and have been in the corresponding sections or articles since 1836, when an averment of that nature was first required. They are also the words of Rule 46, and were in the form of 1836. But the present form (No. 18) reads:

> "That the same was ever known or used before ——— invention or discovery thereof,"

and has so read since April 15, 1882 ("or discovery" was not inserted until February 9, 1897, but the words are synonymous). There is nothing wrong about this, however, for the form is a patch-work of Sections 4886, 4892, 4923 and others, and also Rule 46. Section 4892 and Rule 46 are indefinite as to the time before which the alleged improvements were not known or used. They simply make the applicant swear "that he does not know and does not believe that the same was ever before known or used," without setting the date from which that speaks. And it could not be the date of the oath or that of the application, which is theoretically the same (*Ex parte* Branna, 97 O. G., 2533; C. D., 1901-232), for it would not do to bar a patent because the invention had been used (for a time less than two years) before the application was filed (*Ex parte* Rowan, 22 O. G., 1037; C. D., 1882-12). However, Section 4892 relates merely to the knowledge and belief of the applicant whereas Section 4886 deals with the actual facts of invention, and admits only such improvements as are "not known or used by others in this country before his invention or discovery thereof." That then is the time before which knowledge or use of the invention would be fatal. Still, the oath must not be limited to knowledge or use in this country (*Ex parte*

Nicholson, 96 O. G., 1035; C. D., 1901-86), as the quotation would imply, for it is contemplated by Section 4923 that, at the time of making his application, the inventor shall believe himself to be the original and first inventor, although it prohibits holding a patent void because the invention or any part thereof was known or used in any foreign country before his invention or discovery thereof.

Or Patented or Described in any Printed Publication in any Country Before ——— Invention or Discovery thereof or more than Two Years Prior to this Application.

The germ of this averment made its entry into the patent law in Section 7 of the Act of 1836, which provided:

> "That . . . if, on any such examination, it shall *not* appear to the Commissioner . . . that it had been patented or described in any printed publication in this or any foreign country, . . . it shall be his duty to issue a patent therefor."

It next appeared as a bar in Section 24 of the Act of 1870, which was embodied in Section 4886 of the Revised Statutes in 1874; but the two-years clause was not added until the Act of 1897.

The rules did not require it until 1899, when it was alo inserted in the form.

Or in Public Use or on Sale in the United States for More Than Two Years Prior to this Application.

Public use or sale with the consent or allowance of the inventor as such, at the time of the application was made a bar to the grant of a patent by Section 6 of the Act of 1836. Under Section 6 of the Act of 1839 relative to foreign patents, introduction of the invention covered by the foreign patent into "public or common use in the United States" debarred the grant of a patent here. While by Section 7 of the Act of 1839 public use or sale by others without the consent specified by Section 6 of the Act of 1836 for more than two years prior to the application rendered the patent void. Section 24 of the Act of 1870 barred the grant for "public use or sale for more than two years prior to his application;" and Section 25 of this Act contained a limitation similar to Section 6 of the Act of 1839. Section 4886 took its original form from Section 24 of the Act of 1870, and the limitation of the use or sale to this country was not made until the amendment of 1897.

This bar came into the Rules associated with foreign patents. Thus, in 1867, Rule 16 corresponding to Rule 46 and the form contained nothing in regard to public use or sale, but Rule 80, under the heading "Of Foreign Patents," read:

> "When an application is made for a patent for an invention which has been already patented abroad, the inventor will be required to make oath that, according to the best of his knowledge and belief, the same has not been introduced into public and common use in the United States."

This oath was a separate instrument, from that commonly attached to the specification.

The words "and common" were dropped in 1871; and the present words "or on sale" occurred first in the form for the oath relating to foreign patents issued in 1880, though they did not come into the corresponding Rule (39) until 1883. The forms were consolidated in 1882; but Rule 45, which corresponds to present Rule 46, did not mention public use or sale until 1885.

There are few published decisions involving this clause of the oath, but Rule 46 has all the force of a statute and the requirement there is sufficient (See Miller *vs.* Lambert, 72 O. G., 1903; 1897-77).

"That said Invention has not been Patented in Any Country Foreign to the United States on an Application Filed by him or his Legal Representatives or Assigns More Than Twelve Months Prior to this Application."

This clause had its inception in Article 8 of the Act of 1836; it was changed by Section 6 of the Act of 1839, by Section 25 of the Act of 1870, and by Section 8 7 Revised Statutes in 1874, which was amended by the Act of 1897, and received its final form by the Act of 1903.

The various steps of its development are very interesting, but anything like a detailed examination of them would be too long for this paper.

(For decisions see next head.)

"And That no Application for Patent on said Improvement has been Filed by ——or—— Representatives or Assigns in any Country Foreign to the United States Except as Follows:"

This requirement was added to the Rule (46) in 1897 when Section 4887, Revised Statutes, was amended to make a foreign patent granted on an application filed more than seven months before the date of the application in this country a bar to the grant here, instead of a mere limitation of the life of the patent, as it would have been under the preceding law. It gave the Office notice of applications pending in foreign countries more than seven months prior to the execution of the oath and which might become patents before allowance in this country. And it serves a similar purpose under the present law (1903). Also, it shows what dates applicants are entitled to under the second paragraph of Section 4887 Revised Statutes.

Both these statements about foreign patents and applications are productive of trouble. Applicants seem inclined to use their own language and to give as little information as possible.

In *Ex parte* Levenstein and Naef (110 O. G., 1726; C. D., 1904-217) the statement relative to foreign patents granted on applications filed more than twelve months prior to the domestic application was omitted, and on petition taken from the Examiner's requirement for a new oath the Commissioner said:

. . . . . .

> "Present Rule 46 requires that the applicant state in his oath that the invention has not been patented to himself or others with his knowledge or consent . . . on an application for a patent filed in any foreign country by himself or his legal representatives or assigns more than twelve months prior to his application.
>
> "This rule is based upon section 4887, Revised Statutes, as amended March 3, 1903, which states:
>
> "Section 4887. No person otherwise entitled thereto shall be debarred from receiving a patent for his invention or discovery, nor shall any patent be declared invalid by reason of its having been first patented or caused to be patented by the inventor or his legal representatives or assigns in a foreign country, unless the application for said foreign patent was filed more than twelve months, in cases within the provisions of section forty-eight hundred and eighty-six of the Revised Statutes, and four months in cases of designs, prior to the filing of the application in this country, in which case no patent shall be granted in this country.
>
> "It therefore appears that this requirement of Rule 46 and section 4887 of the Revised Statutes has not been complied with by the petitioners. They contend, however, that their oath substantially complies with the present requirements, for they state . . . that no application for patent on said improvement has been filed . . . in any country foreign to the United States except . . . one filed in Great Britain, the date

> of which appears to be less than twelve months prior to the filing in this country.
>
> "A similar contention to this was urged in *Ex parte Mason* (C. D., 1888, 33; 43 O. G., 627), wherein applicant instead of using the phraseology required by the rules then in force changed it in a material particular, and it was said by Commissioner Hall:
>
> "'It is evident that this language is far from a compliance with the rules. It may possibly put the applicant to some trouble or delay to file a proper oath but the requirement is one which should be insisted upon. If a material variation, or, rather, violation of the rule, can be permitted in one particular, the practice would soon become very lax in others.'
>
> "In the present case, the applicants have ignored one of the positive requirements of Rule 46, but state that their compliance with another requirement of the rule is sufficient to cure any defect in the omission of the other one. This position is not thought sound. Every portion of Rule 46 is material, and it can not be held therefore, that a compliance with some of its requirements is a compliance with all of them. In the present case the papers are sufficient to entitle the applicants to the date upon which they were filed in this office; but the requirement of the Primary Examiner that a new oath be filed to comply strictly with Rule 46 is right and is affirmed."

This decision was modified by a notice published in 110 O. G., 2019, as follows:

> "The decision of *Ex parte Levenstein and Naef* (110 O. G., 1726) is to the effect that the oath forming a part of an application must be so clear as not to require a comparison of the allegations therein as to the filing of foreign applications with the date of filing of the application in this country in order to determine whether or not the application in question has been filed in this country within twelve months from the date of filing of the

> foreign application. An oath which states that no foreign applications have been filed prior to the filing of the application in this country complies with the rule in this particular; but when an application has been filed in a foreign country it must be positively stated that the said foreign application has not been filed more than twelve months prior to the date of filing of the domestic application."

And both these were interpreted by *Ex parte* Giradot (115 O. G., 1584; C. D., 1905-124):

> "The Examiner's objection relates to the statements concerning the inventor's applications and patents in foreign countries. The inventor has sworn that he does not know and does not believe that the invention or discovery has been patented in any country foreign to the United States on an application filed twelve months before this application and that no application for patent upon his invention has been filed by him or his representatives or assigns in any country foreign to the United States, except one in France identified by date and number, the date given being within twelve months of the date of the application in this country. The Examiner's objection is that the oath does not positively state that the foreign application mentioned was not filed more than twelve months prior to the filing of this application.
>
> "The Examiner's position is not well taken. There is no good reason for requiring the applicant to state, in addition to the statements already made, that his foreign application was not filed more than twelve months before the filing of the application in this country. If the foreign application had been filed outside of the twelve-months' period, the application here would nevertheless be entitled to full consideration, no patent having issued upon the foreign application. In citing his foreign application, in stating that no other foreign application has been filed and that no

> patent has been granted upon an application filed in any foreign country more than twelve months before the date of the domestic application the applicant has made every allegation respecting his foreign applications and patents required by the rule. The Examiner based his action upon *Ex parte Levenstein and Naef* (C. D., 1904, 217; 110 O. G., 1726), and notice concerning this decision published in the Official Gazette, volume 110, page 2239. This decision and notice should not, however, be interpreted to require more than the applicant has already done in this case."

The language of Commissioner Allen in *Ex parte* Thorsten von Zweibergh (110 O. G., 859; C. D., 1904-176) is a good guide. He said:

> "While . . . filing a new oath may cause slight delay . . . it is essential that the practice should be uniform, and the rule relating to oaths should be strictly followed. To hold otherwise would cause endless confusion in determining whether or not language chosen by the applicant in his oath was sufficient to comply with the requirements of the statute."

DATE.

In French *vs.* Rogers (1 Fisher, 133, 1851) the court said:

> "We do not see the justice of the criticisms upon this application that the jurat affixed to it is without date of day or month."

But that was in an infringement suit on a patent and the presumptions referred to earlier in this paper would protect it. The oath deals with conditions at the date of the application and it should be dated so that the Office can determine whether or not there has been an unreasonable delay in filing the papers after the execution of the oath. However the issue division is instructed to pass cases where the month and year are given.

MUST BE SUBSCRIBED TO BY THE AFFIANT.

Rule 46 says that: "This oath must be subscribed to by the affiant;" and that appears to be sufficient authority, in view of the numerous decisions that hold it to have all the force and effect of a statute.

BEFORE WHOM TAKEN.

Section 4892 of the Revised Statutes provides that:

> "Such oath may be made before any person within the United States authorized by law to administer oaths, or, when the applicant resides in a foreign country, before any minister, charge d'affairs, consul, or commercial agent holding commission under the Government of the United States, or before any notary public, judge, or magistrate having an official seal and authorized to administer oaths in the foreign country in which the applicant may be, whose authority shall be proved by certificate of a diplomatic or consular officer of the United States,"

to which Rule 47 adds:

> ". . . the oath being attested in all cases in this and other countries, by the proper official seal of the officer before whom the oath or affirmation is made, except that no acknowledgment may be taken by any attorney appearing in the case. When the person before whom the oath or affirmation is made is not provided with a seal, his official character shall be established by competent evidence, as by a certificate from a clerk of a court of record or other proper officer having a seal.
>
> "When the oath is taken before an officer in *any country including the United States* all the application papers must be attached together and a ribbon *or tape* passed one or more times through all the sheets of the application, and the ends of said ribbon *or tape* brought together under the seal before the latter is affixed and impressed, or

> each sheet must be impressed with the official seal of the officer before whom the oath was taken, or, if he is not provided with a seal then each sheet must be initialed by him."

(Only people specified competent, *Ex parte* Harkanson, 63 O. G., 1688; C. D. 1893-76). (See also Op. Atty. Gen., 60 O. G., 1481.)

This language is sufficiently specific without construction or explanation to form a guide in most instances; but the exception made in the case of the attorney deserves special mention, for an oath administered by him is absolutely void (Rieger *vs.* Beierl, 150 O. G., 826; C. D. 1910-12). This exception had its initial appearance in the revision of the Rules made July 17, 1907; and was apparently made in view of the opinion of Attorney General Bonaparte (127 O. G., 3642) under date of April 18, 1907, construing the amended section 558 of the D. C. Code relative to notaries. This section in part read:

> "That no notary public shall be authorized to take acknowledgments, administer oaths, certify papers, or perform any official acts in connection with matters in which he is employed as counsel, attorney, or agent in which he may be in any way interested before any of the Departments aforesaid,"

and was construed to apply to all notaries who may practice before the Departments. The Court of Appeals of the District of Columbia expressed a similar opinion in the Hall's Safe Company *vs.* Herrnig-Hall-Marvin Safe Company (135 O. G., 1804; C. D., 1908-473). For a full discussion of the subject and directions to be followed see Riegger *vs.* Beierl, *supra.*

The holding in *Ex parte* Wolski et al. (84 O. G., 2022; C. D., 1898-210) that an oath executed before a judge of the Imperial Royal District Court of Austria can not be accepted, and the similar holding in *Ex parte* Gruson and Schumann (26 O. G., 274; C. D., 1884-2) are no longer controlling for they were made before the amendment in Section 4892 Revised Statutes, contained in Section 2 of the Patent Act of 1903 and incorporated in Rule 47 April 15, 1903, which extended the authority to foreign judges and magistrates.

The Patent Act of 1903 also brought the requirement for proof of the authority of the foreign officer who administered the oath, by a certificate of a diplomatic or consular officer of the United States; and a certificate of the authority of one officer who in turn certifies the authority of the officer before whom the oath was taken is not a compliance (*Ex parte* Rose, 180 O. G., 322; C. D., 1912-194); nor is a proper certificate sufficient for more than one case. In re Fred G. Dieterich and Co. (110 O. G., 309; C. D., 1904-151).

Ribboning the papers, or impressing the seal or placing the initials upon each sheet of foreign applications which has been necessary since the revision of the Rules published January 2, 1903, is still insisted upon; but the similar requirement in domestic cases imposed by the amended Rules of November 21, 1908, has been informally waived.

To sum up: No application should be allowed unless it contains an oath or affirmation made and subscribed to by the inventor, and before an officer named in the statute; stating his citizenship and residence; declaring a belief that he is the original, first and sole inventor (or joint inventor, as the case may be) of the invention or discovery disclosed in an identified specification; disclaiming knowledge and belief of the knowledge or use thereof before his invention or discovery, or the existence of a patent thereon or a description thereof in a printed publication in any country before his invention or discovery, or more than two years prior to his application; denying that said invention has been patented in any country foreign to the United States on an application filed by him or his representatives or assigns more than twelve months prior to his said application, and also that any application for patent on said improvement has been filed by him or his representatives or assigns in any country foreign to the United States, except as are named and identified by date and country; said oath bearing the seal of the officer before whom it was made, or, if he had none, being accompanied by competent certification of his authority; said oath also showing venue either in a formal statement or in the seal of the officer before whom it was made, or consistently in both. In cases of dead or insane inventors the oath or affirmation is made by their proper legal representatives with appropriate variations in "form."

December 3, 1914.

Henry

21

PITFALLS

OR

HOW AN INVENTION MAY BE LOST

A paper read December 3, 1914, before the Examining
Corps of the United States Patent Office

BY

J. J. OBERLIN,
Second Assistant Examiner, Division Ten,
U. S. Patent Office.

F. H. MITCHELL, Principal Examiner.

WASHINGTON D. C.
1915

Pitfalls
or
How an Invention May Be Lost

By

J. J. OBERLIN,
Second Assistant Examiner, Division Ten,
United States Patent Office.

The idea of property is at the bottom of all human progress. In addition to the existence of property there must be an exclusive ownership thereof, and not an ownership in common, otherwise men would not work and strive to produce new things.

This ambition to own and control appeals to inventors as well as other individuals and induces them to create new ideas. When an inventor has thus conceived a new idea and follows this up by embodying that idea in a practical machine or process he at once becomes the possessor of a property right therein and he has a natural right to conceal or reveal the same. This property right would be but a small inducement to inventors to exercise their genius without the possibility of taking some steps to gain exclusive control of the manufacture and sale of their devices. In order to protect these natural rights it now becomes necessary for him to seek statutory protection by applying for and obtaining a patent. The law steps in and comes to the aid of inventors in this respect. It provides a system of procedure which may ripen into a patent granting a private monopoly to the inventor as a reward for his ingenuity and diligence.

It is the private monopoly resulting from the patent which affords the chief inducement or incentive to those possessed of inventive skill to exercise their faculties in order to promote the arts and sciences.

The inventor must initiate the proceedings and comply with the requirements of the Patent Acts in order to obtain a patent.

The object of this paper is to point out some of the unusual errors or mistakes which may result in failure to secure the full benefits of the protection intended to be secured by the Patent Statutes.

After an invention has been conceived, the inventor's first thought is naturally how to get a patent as soon as possible. While the law contemplates diligence on the part of the inventor who expects to apply for a patent, it does not require undue haste. In the case of complicated machines an application for patent hastily prepared will frequently be found to disclose an inoperative device. This fault of inoperativeness or lack of proper disclosure may be discovered by the primary examiner. The remedy then is to file a new and corrected application. This will not be a serious hardship on the inventor. However, if the inoperative feature is discovered in interference proceedings with other parties they may take advantage thereof to secure a decision in their favor. Hence a premature application may result in the loss of the patent by judgment of priority being rendered against an inventor who was first to conceive, either on motion to dissolve or at final hearing, whereas a reasonable time devoted to experiments might have enabled the inventor to cure the defects and protect his rights. Moreover, much needless argument and confusion may be avoided in the prosecution of the application before the primary examiner if the invention has been thoroughly tried out and tested before filing.

The law recognizes the inventor's right to a reasonable time for experimenting with and completing his device. Yet during this period there must be no relaxation of effort which would amount to a lack of what is technically known as "due diligence." Even a lack of money to carry on and complete the reduction to practice will not always be received as a sufficient excuse.

In all cases the application must be filed before the process or thing invented has been in public use or on sale in this country for more than two years, or patented or described in any printed publication in this or any foreign country for more than two years.

While it seems to be the intention of the patent law that an inventor shall disclose his invention fully and promptly and take the necessary step provided by the law to protect the same, yet he may, at his own opiton and risk, conceal it.

A spirit of indulgence has always been manifested toward those inventors, who in good faith, delay application for a patent while engaged in diligent effort to perfect and adapt their devices to practical use. The courts recognize and protect the rights of inventors under such circumstances.

When, however, the invention has been fully completed and reduced to practice a different question may arise in considering delay of application for patent. The public has a right to be informed of and benefited by the invention in return for the private monopoly which the inventor expects to secure. The doctrine laid down in cases of this kind is stated in Bates *vs.* Coe, 15 O. G., 337, as follows:

> "Inventors may, if they can, keep their invention secret, and if they do for any length of time they do not forfeit their right to apply for a patent, unless another in the meantime has made the invention and secured by patent the exclusive right to make use and vend the patented improvement. Within that rule and subject to that condition inventors may delay to apply for a patent."

An example in which delay of this kind has cost an inventor his right to a patent is found in the case of Mason *vs.* Hepburn (84 O. G., 147).

Mason had invented a detachable clip for a shot-gun. This device was satisfactorily tested in 1887, and the gun, with its attached clip in working condition was hung up and concealed in the inventor's store room for seven years. In the meantime Hepburn made the same invention and secured a patent therefor. Mason, upon seeing this patent, at once asserted his rights to the device as the first inventor by filing an application in the Patent Office. An interference was declared and judgment was rendered in favor of Hepburn, the last inventor. Mason had been too slow in applying for his patent under circumstances which had worked an equitable estoppel against him. He had neither benefited nor intended to benefit the public by disclosing his invention until another had produced the same device and obtained a patent.

The same theory of equitable estoppel has been applied in withholding a patent in the case of a renewal application. The point has been discussed at length in the decision of the Examiners-in-Chief in the case of Barber *vs.* Wood (207 O. G., 299).

Wood's application had become forfeited and he relied upon his right as stated in Revised Statutes, Section 4897, to renew at any time within two years after the date of allowance. Barber's patent came out soon after Wood's application was allowed and in the meanwhile he began manufacturing under his patent and marketing the machines, entirely ignorant of Wood's forfeited application for the same invention in the Patent Office. Wood contended that he had an absolute statutory right to delay two years before renewing. In the conclusion reached by the Examiners-in-Chief this right is qualified to the extent that the entrance of a patentee who manufactures and sells the device imposes a new duty on the inventor who has a forfeited application to re-assert promptly his claims for a patent by renewing his application. A protracted and unnecessary delay in renewing under such circumstances will be considered as an equitable abandonment and the renewed application will be rejected for that reason.

Another way of losing the right to a United States patent is by exercising too great haste in obtaining foreign patents. Under the law of 1903 the securing of a foreign patent, granted on an application more than twelve months old, will bar the inventor's rights in the United States. Prior to 1903 the domestic patent was barred under the law of 1897 if the foreign patent was granted on an application over seven months old instead of twelve months.

Under this practice it was sometimes possible for unscrupulous applicants in this country to take unfair advantage of foreign inventors. A person might see the invention in practical operation abroad. He would return to the United States and file an application therefor.

A subsequent application filed by the foreign inventor would fail in an interference because of the fact that knowledge and use of an invention abroad is no bar to a patent in the United States and therefore is incompetent matter to be shown and considered in an interference proceeding. In this way the theft of a foreign invention might be perpetrated in this country.

To remedy this evil the law has lengthened the former period of seven months to twelve months and, in addition, gives to the foreign inventor the benefit of the date of filing in his own country as the date of reduction to practice under the provisions of the International Convention for the Protection of Industrial Property. Hence, in an interference the foreign inventor may protect himself from such questionable applications as are referred to above by showing an earlier filing date of the invention in the foreign country.

This may be done by furnishing a certified copy of the foreign application as filed in order to enable the Examiner of Interferences to determine the identity of invention in the foreign and domestic applications. The uncertified copies of foreign patents as received in the United States are not sufficient.

JOINT AND SOLE INVENTORS.

A patent to be valid must disclose the real inventor and must be founded on his right as such. "It follows that if one of two or more persons obtains a patent for a process or thing which was jointly invented by them all that patent is not valid." If one inventor could have a valid patent for a joint invention, each of his co-inventors could do likewise, and each of several persons would possess the exclusive right to the same thing. This state of affairs clearly would be impossible among the patentees and intolerable as to the public.

Conversely, if a joint patent be issued to several persons for what was invented solely by one of them that patent is void (Walker, Sec. 50).

"Where several independent inventions are claimed by several different claims in a joint patent and where one of those inventions was made by one of the joint applicants for the patent, without any co-operation of another joint applicant, the claim of the patent which covers that invention is void" (Walker, Sec. 51). In other words, a joint patent may contain claims covering several distinct inventions. Each of these distinct inventions must be the joint invention of all the applicants. If any one of them be, in fact, invented by one of the applicants solely, without the co-operation of the other applicants, a claim covering such invention will be void.

Generally speaking, it is an applicant's privilege and right to have claims expressed in language of his own choosing. The claim is the inventor's fence defining the limits of his invention to distinguish it from the prior art. In building this fence the applicant may select his own materials; usually the office in behalf of the public is concerned only with the size of the plat included. When two inventors attempt to fence off and appropriate the same particular spot, a dispute arises as to which was the first discoverer. The office must settle this controversy.

A claim will be suggested to one or all of the applicants. They must take the claim exactly as presented to them. Neither may understand it. Yet it would be hazardous to refuse and the acceptance must be within a time specified by the examiner. If either of the inventors fails to make the suggested claim the examiner will reject all the claims commensurate therewith in such applicant's case.

In this incipient stage of an interference an inventor must necessarily be more or less in the dark as to the exact issue intended to be covered. After the interference is actually declared and all the parties have access to each other's files the applicants may then determine for themselves whether the issue includes all interfering subject-matter. If it does not, any applicant may make a motion under Rule 109 to have claims covering such additional subject-matter included in the issue or made the basis of other interferences. Neglect to take advantage of the opportunity afforded by Rule 109 to include all the common subject-matter will operate as a disclaimer of such matter. After the expiration of 30 days from the approval of the preliminary statements it will generally be too late to entertain claims for interfering matter which might have been earlier presented.

For example, A, B, and C may be involved in an interference, each at the same time, having other claims for distinct inventions not included in the issue but which might have been included therein or made the subject of other interferences. If judgment of priority be rendered in favor of A, then B and C are thereafter estopped to claim the distinct invention not included in the interference. Although their files may have previously contained claims for such subject-matter they will be rejected (*Ex parte* Temple and Goodrum, 176 O. G., 526; Robinson *vs.* Copeland, 187 O. G., 514).

An invention may be lost by inadequate or improper prosecution of the application in the Patent Office thus leading to abandonment not only of the application but of the invention, but it is not proposed to go into a detailed discussion of this matter in this paper as it will undoubtedly be fully treated by others.

More rights are probably lost to inventors by making inadequate, defective, or insufficient claims than by any other fault. The difficulty of drawing a claim to define an invention properly is well understood by all concerned with patent affairs. The claim, which is the measure of the patentee's rights, has to run the gauntlet of the ideas of the inventor, the attorney, the examiner, the appellate tribunals of the Office, and finally must withstand the criticisms of the courts.

The claims are frequently found to be too broad or too narrow or too inaccurate to define exactly the real invention, and while there may be a real and valuable invention disclosed in the specification, yet the inventor loses his rights by reason of the defective claim, perhaps through no fault of his.

While it is necessary to have a broad claim to cover a generic invention it is quite as important that the claim should be specific to a specific invention; that is, a claim should define and point out accurately just what the real invention is.

REISSUES.

An invention may be sacrificed by taking out an invalid or insufficient reissue. The application for the reissue of a patent is often attended by more serious consequences than are at first apparent. The petition should recite sufficient grounds to entitle the patentee to a reissue and, failing in this, as intimated by the Supreme Court in Eby *vs.* King (71 O. G., 1454), Gen. Elec. Co. *vs.* Richmond (178 F., 784), the Commissioner obtains no jurisdiction to act. If the reissue were granted upon a petition defective in this respect, that alone might be sufficient reason for holding the reissue void. Nor can the inventor fall back upon the original patent since the grant of a reissue amounts to a legal cancellation of the former patent. No rights can thereafter be asserted upon it and even suits pending for an infringement of such patent fall with its surrender because the foundation upon which they were commenced no longer exists (Reedy *vs.* Scott, 7 O. G., 463).

In making application for reissue the patentee should not forget that the surrender of the original patent is good even though the reissue be void. Again, an interference involving a patent will be decided against the patentee if, in the meantime, a reissue is granted, omitting claims corresponding to the issue of the interference. Such action of the patentee will be regarded as a formal written abandonment of the issue of the interference (Lattig & Goodrum *vs.* Dean, 115 O. G., 505).

The final step in securing the benefits arising out of patent rights consists in giving the public notice that the thing or process has been patented. Without notice the inventor is not entitled to recover damages or profits for infringement of his patent.

The patent act of 1842 provided a penalty for failure to mark by stamping or engraving on each article vended the date of the patent. Neglect to give the required notice made the patentee liable to a fine of not less than $100 for each offence, one-half of which was paid into the Patent Office fund. This source of revenue, however, did not endure for many years because in 1861 the law was modified to abolish the penalty. On failure to mark the article patented the patentee is not allowed to recover any damages for infringement, except on proof that the defendant was actually notified of the infringement and continued after such notice to make and vend the patented article.

If the inventor does not manufacture and sell the article, of course he can not mark. Under these circumstances the patent itself is deemed to be constructive notice.

Pioneer inventions are usually the most valuable, but it often happens that the inventor is so far ahead of the art that he exhausts his rights before the art develops sufficiently to make his invention profitable; pioneering is therefore dangerous. An excellent illustration of this is found in the pneumatic tire patent granted to Thompson, May 8, 1847, No. 5104, in which the modern pneumatic tire was fully disclosed, not only broadly but in many details and in practical form, worked out, tested and described in Mechanics Magazine, vol. 46, page 290. The invention seems to have lain perfectly dormant for more than forty years or until Dunlap again invented it in 1888. The invention was not only lost to the original inventor but to the subsequent one as well. The value of the invention thus lost can hardly be estimated when it is considered that a subordinate patent merely for the manner of fastening the pneumatic tire to its rim sold for one million dollars.

December 3, 1914.

22

Abandonment of Invention

by

Harry C. Armstrong,
Principal Examiner, Division Eleven.
U.S. Patent Office

Dec. 10, 1914,

Journal of the Patent Office Society.

Vol. 5 No. 3 Page 28.

Paper No. 22.

23

THE ENTRY OF AMENDMENTS

A paper read December 10, 1914, before the Examining
Corps of the United States Patent Office

BY

THEODORE A. HOSTETLER,
First Assistant Examiner, Division Eleven,
U. S. Patent Office.

WASHINGTON, D. C.
1914

The Entry of Amendments

By

THEODORE A. HOSTETLER,
First Assistant Examiner, Division Eleven,
United States Patent Office.

It is the well settled practice of the Patent Office to permit an inventor to amend his application under certain restrictions, to supply omissions and defects and correct informalities in the papers that have been filed, and to otherwise revise the application to secure for him the invention to which he is legally entitled. But in permitting amendments to be made, due regard must be had for the rights of the public in general and the rights of rival inventors.

UNSIGNED OR IMPROPERLY SIGNED AMENDMENTS

which are to be returned for signature should be forwarded to the Chief Clerk of the Patent Office with a memorandum giving the name and address of the attorney, date of the last office action in the case, and a statement as to why the paper is to be returned. The Chief Clerk will cancel the receiving stamp and conduct the correspondence incident to the return of the papers. If there is not sufficient time for the return of the amendment for signature before the expiration of the time allowed by law within which to take proper action, the examiner will endorse it on the file wrapper, but will not enter the amendment, and will notify the applicant of the status of the case. The informal amendment may be useful in determining the question of abandonment of the application.

In all cases where papers are returned to applicants for any reason it is advisable that the clerk place a pencil memorandum in the file for future reference. The record in every case should be so complete that any person taking up the case at any time can understand the status or condition of the case without making any inquiries.

If an amendment is signed by rubber stamp, it should not be accepted. Ex parte Minehan, 134 O. G., 1298 (1908). Acceptance of amendments so signed would open the door for grave irregularities. Amendments should be signed by the applicant or his attorney with pen and ink or their equivalent. An amendment with a stamped signature should be treated as an unsigned or improperly signed paper.

PERMANENT INK.

Amendments must be written in permanent ink. Ex parte Burns, 101 O. G., 661 (1902). In 1880, July 30th, Commissioner Marble issued the following order, No. 32:

> All applications, communications, and other instruments in writing or print, which should constitute a permanent record in the office, must be prepared with a substantially permanent ink. Analin and other perishable inks will not be accepted.

It appears that a permanent ink must have a foundation of lampblack or carbon. The tests given in Ex parte Blaubach, 84 O. G., 1732 (1898), and used in other Executive Departments are two in number—first the application of Labarraque's solution followed by a saturated solution of oxalic acid, and second, the application of a 10 per cent solution of nitric acid. Ex parte Ritter, 57 O. G., 1883 (1891) is another decision that bears on the question of fugitive inks. See also Rule 30.

AMENDMENTS IN GENERAL.

Where an amendment to an application is received more than a year after the date of the last office action, it is indorsed on the file wrapper of the application, but is not formally entered, and the examiner immediately notifies the applicant that the amendment was not filed within the statutory period, and therefore can not be entered. Order 1854.

When an Associate Attorney is prosecuting a case, and the Principal Attorney files an amendment over his own signature, it must be entered and acted upon, if it is otherwise a proper amendment. The practice of filing amendments by both the principal and associate is discouraged. Ex parte Eggan, 172 O. G., 1091 (1911). This decision also states with whom the correspondence is held when there are several attorneys in the case.

A substitute specification is objectionable and in general should not be filed unless required by the office in view of the number or nature of the amendments to the original specification. No general rule can be given as each case must be decided upon its own merits. Ex parte Orewiler, 170 O. G., 481 (1911).

Where an inventor files his own case, and at the suggestion of the office employs an attorney a new specification is admitted. Ex parte Clifford, 193 O. G., 511 (1913). This is not an exception to the general practice, but is based upon the presumption that the conditions are such as to necessitate a new specification.

It is the well-settled practice of the office that an amendment can not be entered in part. To enter an amendment so far as responsive and to refuse to enter the remainder thereof, would lead to endless confusion. As an example, where after final rejection an amendment is presented canceling the finally rejected claims and presenting certain new claims without a verified showing, the amendment should not be entered. Ex parte Hodge, 173 O. G., 1079 (1911).

An amendment is presented in which the last claim is canceled by a line drawn through it with a pen without anything to indicate who canceled it. The amendment is informal but should be entered and applicant should be required to cancel the claim by the usual amendment. In like manner, pencil interlineations which apparently are intended to be a part of the specification should be called to applicant's attention in order that they may be erased or entered in the case upon proper authorization.

Where applicant's instructions to amend are erroneous, but it is clear what his intentions are, the amendment should be properly entered and applicant, in the next office letter, should be informed definitely what has been done.

Where a case is not closed against further prosecution and an amendment is received that is fully responsive and also contains additional matter that is not responsive, it is the practice to enter the entire amendment, give action on the responsive part, and require the cancellation of the part that is not responsive.

Claims which necessitate the requirement of division, if presented in an amendment, should be entered and division required. Claims presenting a new species other than that elected should be entered and applicant should be required to cancel them. Ex parte Selle, 110 O. G., 1728 (1904).

Where the examiner suggests claims to an application for the purpose of interference under Rule 96, and sets a time within which to make them, and the applicant does not make the claims until the other interfering application has become a patent, it was held that the amendment should be entered, and the claim considered in order to give applicant an opportunity for appeal. Ex parte Swift, 111 O. G., 2494 (1904).

DELAYED APPLICATIONS.

It is a great injustice to the public and other inventors to permit an applicant to prosecute his application indefinitely and keep his invention from the public while the art is growing up and passing by his invention. To then allow a patent to issue with claims covering the art is unjust and inequitable to the public and especially to other inventors who have developed the art. The practice announced in Ex parte Miller, 139 O. G., 730, and Ex parte Perry, 140 O. G., 1001, is designed to remedy this evil by closing the prosecution of applications before the office, when they have been pending for a long time, or when an issue has been reached.

The policy of the Patent Office, as gleaned from the Commissioner's report, 199 O. G., 939, and a later report in the Scientific American, August 1, 1914, is to reduce the time during which applications may pend in the office. An order is now in force which requires amendments to cases which have been pending five years or more, to be called to the personal attention of the Commissioner before being entered. This time is to be gradually reduced until cases which have been pending more than two years will probably be included in this order. An investigation instituted by Commissioner Ewing last June disclosed the fact that the patents issued during the first six months of 1914 were pending in the office as applications an average time of twenty-one and one-half months. This average has risen until it is now (December, 1914) more than two years. With many of the old applications ultimately eliminated the average time applications pend in the office will be much less than that. Hence a new rule or order requiring all cases which have been pending more than two years and all amendments thereto to be called to the personal attention of the Commissioner may eventually be promulgated.

AMENDMENTS AFTER FINAL REJECTION.

After a case is under final rejection, the following amendments may be entered:

(1) Amendments canceling claims or the matter upon which appeal is to be taken.

(2) Amendments presenting the rejected claims in better form for appeal.

(3) Amendments accompanied by a showing duly verified of good and sufficient reason why they were not earlier presented.

(4) The examiner has discretion to admit other claims for the purpose of appeal.

(5) He can waive the final rejection and open the case for further prosecution.

(6) He can admit amendments containing claims for the purpose of interference.

(7) He can admit an amendment containing a claim which he deems patentable; but the entry of the amendment does not reopen the case for further prosecution.

When broad claims are finally rejected, an amendment canceling the broad claims and substituting more limited claims is not in itself a sufficient showing to reopen the case. Ex parte Lange, 163 O. G., 727 (1911).

In a finally rejected case, the Examiners-in-Chief affirmed the examiner but cited a new reference which disclosed certain features of the claim not shown in the references of record. This reopened the case for further prosecution before the examiner. Ex parte Wade, 158 O. G., 704 (1910).

Where claims which were recommended by the Examiners-in-Chief are rejected by the examiner on new references, applicant has a right to amend them or substitute new claims therefor, provided they are directed to the same invention as that covered by the rejected claims. If, however, a claim is presented directed to an invention different from the rejected claim, it should not be entered, as the case is not reopened for general prosecution. Ex parte Lindsey, 156 O. G., 1067 (1910).

Where, after a final rejection, an amendment is presented containing some claims which are admissible, such as claims copied from a patent, for instance, and some which are not admissible, the entire amendment should be entered and the requirement made that the claims which are not admissible be canceled before forwarding the appeal. Ex parte Stickney, 185 O. G., 1379 (1912).

After final rejection amendments to the description which do not touch the merits of the claims but present the invention more clearly may be entered without reopening the case for further consideration. Ex parte Loppentien, 122 O. G., 1723 (1906).

If, after final rejection, the examiner requires an amendment to the specification, this does not reopen the case. Final rejection of claims in a case closes the further prosecution not only of the claims under final rejection, but of others substituted therefor. Ex parte Casselman, 116 O. G., 2012 (1905), and Ex parte Novotny, 108 O. G., 1327 (1904).

In a finally rejected case, and in response to an argument, the examiner called attention to a new reference as showing features referred to in the argument. It was held that this citation reopened the case. Ex parte Lawton, 97 O. G., 187 (1901). This decision is based on Rule 68, which states that an applicant "may amend as often as the examiner presents new references or reasons."

No definite rule can be laid down to determine what constitutes a satisfactory showing of reasons why the amendment was not earlier presented. In determining this question the record of the application should be considered, to see whether the application has been prosecuted in good faith and expeditiously. In Ex parte Schmidt, 171 O. G., 482 (1911), an affidavit was filed by the attorney of record, to the effect that matters contained in the amendment were not earlier presented because of the fact that the inventor had not earlier pointed out to counsel features covered by the proposed amendment. This was held to be a sufficient showing, as the case had been prosecuted in good faith and expeditiously. This case is not inconsistent with Ex parte Schrader, 120 O. G., 2127 (1906), where the petition was denied. There the attorney had filed a statement, stating that the inventor had not called the attention of the attorney to the subject-matter of the proposed claims. The proposed claims were presented to be substituted for the claims finally rejected by the examiner, which rejection was affirmed on appeal by the Examiners-in-Chief and also by the Commissioner.

The excuse that the inventor did not fully explain the subject-matter to the attorney must be carefully considered, as it can be given in almost any case, and if accepted as sufficient, the rule against amending after final rejection would be a nullity.

When a claim is admitted under Rule 68 upon a showing duly verified, the claim must be considered and acted upon by the examiner. He can not hold that it was admitted for appeal only. Ex parte, Meyer, 148 O. G., 1088 (1909).

Where claims are finally rejected and applicant alleges that such claims cover a feature not disclosed in the application, held, that applicant should be permitted to present for appeal claims which unquestionably read upon his disclosure. Ex parte Swanson, 21 Gour., 76-30 (Aug., 1909).

An applicant has no right to amend after decision on appeal except under unusual circumstances and where a proper showing is made. Even then a petition must be made to the Commissioner to reopen the case. Ex parte Auer, 116 O. G., 595 (1905).

AMENDMENT AFTER ALLOWANCE—RULE 78.

Let us follow the course of an amendment under Rule 78, from the time it is filed up to and including its final disposition. After being filed in the Application Division the amendment is sent to the Docket Clerk who then sends to the Issue and Gazette Division for the allowed application file, to which he attaches the proposed amendment, and the notice for the examiner's recommendation, all of which he sends to the examiner. The examiner will recommend that the proposed amendment be entered or not entered as the case may be—usually by endorsement on the proposed amendment—and returns the file with the attached parts, together with his recommendation, to the Docket Clerk, who will transmit it to the Commissioner. If the Commissioner approves the entry of the amendment, the Docket Clerk will immediately send the file and papers to the examiner who will cause the amendment to be entered. The file is then brought back to the Docket Clerk and the applicant or his attorney is notified that the amendment, having been recommended by the examiner, and approved by the Commissioner, has been entered. This letter bears the signature of the Chief Clerk. The Docket Clerk then returns the application to the Issue and Gazette Division. In case the examiner recommends that the amendment be not entered, he will write a letter stating his reasons therefor, and send a copy to the applicant, and return the file, together with the adverse recommendation, to the Docket Clerk, and if the Commissioner approves such adverse recommendation, the Docket Clerk will in like manner notify the applicant or his attorney that the adverse recommendation of the examiner, on the admission of the amendment, a copy of which was sent to him, has been approved by the Commissioner and will return the file to the Issue and Gazette Division.

The examiner is presumed to have jurisdiction of the case until the notice of allowance is sent to applicant. All proper amendments, therefore, received before the notice of allowance is sent, must be received and considered. This is analogous to the practice in interference cases, where the examiner retains jurisdiction of the case until the Examiner of Interferences declares the interference by forwarding the notices to the several parties to the proceedings. Rules 100 and 102. If an examiner sends a case to issue and thereafter a proper amendment is received, which was filed before notice of allowance is sent, the amendment must be entered and considered. If the notice of allowance is sent, the examiner must withdraw the case from issue and enter and consider the amendment. This is the practice. But if the amendment leaves the case in condition for allowance, no reason is seen why it should not be entered under Rule 78 without withdrawing the case from issue, upon the initiative and recommendation of the examiner, and the approval of the Commissioner. This course would avoid the necessity of withdrawing the case from issue, and of sending a second notice of allowance.

After a case has been sent to issue and the notice of allowance sent, the time for amending, as a matter of right, has expired. The entry of claims under Rule 78 is not a matter of right, but is a privilege granted to applicants after such examination of the case by the examiner as he may deem necessary. Ex parte Goldsmith and Whiting, 184 O. G., 553 (1912).

The admission of amendments under Rule 78 rests largely with the examiner, whose recommendation will not be overruled except under unusual circumstances. It is well settled that an amendment will not be admitted after allowance, where it requires a reexamination of the case. Ex parte Holz, 154 O. G., 1411 (1910).

If the examiner reports that the claims are unpatentable, they will not be entered. Ex parte Langhaar, 159 O. G., 747 (1910). The applicant has no right to appeal from the examiner's decision holding that the claims are unpatentable and therefore the usual reason for explaining fully to the applicant the grounds upon which the conclusion is based does not exist. Ex parte Orndoff, 140 O. G., 1001 (1909). Rule 78 does not provide for prosecution of the case. The examiner has no jurisdiction and his report to the Commissioner is not an action in the case. No hardship or irreparable injury results from the refusal to enter the amendment under Rule 78, as the applicant may allow the application to become forfeited and then file a renewal, or he may abandon the application in favor of a continuing application, and in this way, secure consideration of the amendment as a matter of right.

The claims in a certain case were finally rejected, appealed to the Examiners-in-Chief, and allowed. The case was passed to issue, and then withdrawn for the purpose of interference. The applicant was defeated in the interference and the claims were rejected under Rule 132. The applicant now presents an amendment canceling the rejected claims and adding new claims. What shall be done with the amendment? The amendment must be entered and considered. The case is not closed before the examiner, although it was closed before the appeal was taken. Withdrawing a case from issue for the purpose of interference reopens the case for further prosecution, and moreover the rejection under Rule 132 is a new ground of rejection. Ex parte Klepetko, 126 O. G., 387 (1907).

AMENDMENTS TO THE PETITION.

The entry of amendments to the petition of an application is governed by Order No. 1874 as modified by Order No. 1994. The petition in an application may be amended to correct names and addresses (other than post-office addresses), and titles of invention. To make a change in the post-office address, a letter signed by the applicant in person and giving his actual post-office address will be accepted. An applicant's post-office address in care of his attorney will not be accepted. Ex parte King, Com. MS. D., Mar. 23, 1900.

AMENDMENT OF THE DRAWINGS.

Where applicant desires to amend a drawing, he should file a photographic print of the original drawing and illustrate on this print or by means of a sketch the change in the original drawing that he desires to make. The print and sketch should then be filed accompanied by a written request for permission to amend the drawing as indicated. The examiner's response to this request should be in writing. Signatures to the drawing may be corrected and reference characters changed by the office without filing photographic prints if the requirement for such corrections and changes appear in the examiner's letter.

Order No. 2112, of March 30, 1914, directs that—

> Hereafter, corrections and alterations in the disclosure of the drawings of pending applications will be made only by the draftsmen employed by the Patent Office. Inventors, attorneys, and examiners will be guided by this order. The Chief Draftsman will make a reasonable charge for such changes as may be necessary. (See Order No. 1958 of February 3, 1912.)
>
> The purpose of this order is to stop the constant mutilation of office records.

EXAMINER'S AMENDMENTS UNDER ORDER 1718.

Where the citizenship of the applicant is given in the oath, but omitted in the preamble to the specification, it may be supplied by examiner's amendment.

In applications otherwise ready for allowance, where the first name of the applicant is disclosed in the record but does not appear in the preamble to the specification, the examiner will insert the first or Christian name of the applicant in the preamble by examiner's amendment.

Examiner's amendments are a great convenience in making minor corrections, but care must be exercised so as not to expand this order to include amendments other than the correction of obvious informalities.

AMENDMENTS CONTAINING NEW MATTER.

The subject of new matter will be presented in another paper, and will not be treated in this paper further than to say that an amendment containing claims to new matter should be entered and rejected for that reason and all other reasons which are deemed applicable. Rice, 21 Gour., 56-22 (June, 1909).

If the amendment attempts to introduce new matter into the specification but does not present claims for the new matter, the examiner should refuse to enter it. Ex parte Mothes, 113 O. G., 1146; and Ex parte Smith, 58 O. G., 1840 (1892).

If the amendment attempts to introduce new matter into both the specification and the claims, the entire amendment should be entered. The examiner should reject the claims and require the new matter in the specification to be canceled. New drawings, however, should not be entered until the question of new matter is finally determined. Ex parte Furness, 104 O. G., 1655 (1903).

December 10, 1914.

[illegible]

2nd

Practice Relating to Division

AS INDICATED BY DECISIONS OF THE BOARD OF EXAMINERS-IN-CHIEF

A paper read December 17, 1914, before the Examining
Corps of the United States Patent Office

BY

LOREN A. SADLER,
Principal Examiner, Division Twelve,
U. S. Patent Office.

WASHINGTON, D. C.
1914.

Practice Relating to Division as Indicated by Decisions of the Board of Examiners-in-Chief

By

LOREN A. SADLER,
Principal Examiner, Division Twelve,
United States Patent Office.

The purpose of this paper is to outline briefly the principles which underlie the practice of the office in the matter of division.

Widely different views have been held with regard to this question, depending upon the individual construction placed upon Section 4886 of the statutes which is as follows:

> "Any person who has invented or discovered any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement thereof, not known or used by others in this country before his invention thereof, and not patented or described in any printed publication in this or any foreign country, before his invention or discovery thereof, or more than two years prior to his application, unless the same is proved to have been abandoned, may, upon payment of the fees required by law, and other due proceedings had, obtain a patent therefor."

The question to be answered is, how much may a single patent cover? May more than one invention receive protection by a single instrument? Is it proper to join two or more inventions in a single patent, and if so, under what conditions?

Robinson in his work on patents inclines strongly to the belief that joinder of inventions is not contemplated by the statute. He says (vol. 11, p. 48):

> "The joinder of several inventions in a single application is not altogether consistent with the principles or policy of patent law, however nearly related to each other such inventions may be. A right to the exclusive use of one invention is entirely distinct from a right to the exclusive use of any other, and the monopolies created in favor of an inventor must, therefore, always be as numerous as the inventions upon which they are based.
>
> "That several monopolies *can* be created by one granting act, and *can* be witnessed by one instrument of grant is undeniable; but the symmetry of the law and the avoidance of unnecessary confusion would require that each invention be protected by a separate patent, in which the limits of the single monopoly conferred thereby might be clearly and perpetually defined."

And then bowing to the actual realities of things he adds:

> "A contrary practice, however, has arisen, and out of consideration for its convenience and its economy to applicants, has been sanctioned by the Patent Office and the courts."

In Ex parte Bancroft and Thorne, 20 O. G., 1893, Commissioner Marble said:

> "The fair construction, I think, of this statute is that an invention or discovery for which a person may receive a patent is a single invention or discovery, not several . . . My attention has been called to the fact that patents have been issued for a process and a product; a machine, process, and product; and a machine and product, and, as I think, in many cases, improperly. The fact that the courts will sustain patents in order to protect the rights of parties, or that patents have been improperly issued, furnishes no rule of ac-

> tion for this office. . . . I am unable to appreciate the suggestions made upon the argument about public policy or the policy of the law in connection with the issuing of patents. The law has no policy other than that expressed in itself, and that policy is to give to every person, upon his complying with its terms, all the rights and privileges contemplated therein. It certainly is not the policy of the law to give to a person any more than is authorized. If there is any policy in the law it is to allow all persons whom the law recognizes as proper applicants for patents for inventions, the right to devise ways and means, mechanical or otherwise, for practicing or producing anything useful and beneficial to man. This, I think, is best done when the particular thing invented or discovered is embraced in one patent."

In Wyeth *vs.* Stone, 1 Story, 273, the court emphasized this principle calling attention to the exact wording of the statute in the following words:

> "For if different inventions might be joined in the same patent for entirely different purposes and objects, the patentee would be at liberty to join as many as he might choose, at his own mere pleasure, in one patent, which seems to be inconsistent with the language of the patent acts which speak of the thing patented, and not of the things patented, and of a patent for an invention and not of a patent for inventions; and they direct a specific sum to be paid for each patent. . . . There is no ground, founded in public policy or in private right, which calls for any expanded meaning of the very words of the statute; and to construe them literally is to construe them well."

On the other hand, there have been those who have been extremely liberal in their views, and who would cover by a single instrument as many monopolies as might be described in a specification, just as a deed may give title to many different properties. As an illustration may be mentioned the case of Benjamin Electric Mfg. Co. *vs.* Dale Co. et al., 158 F., 617. The original application of Benjamin contained claims to a number of modifications between which division had been required. The court said:

> "The logical way would have been to include the genus and its varieties in the same patent, and half a dozen claims would have covered every possible combination which he was entitled to hold. But by the time the Patent Office got through with him, Benjamin was the holder of four separate patents granted upon divisional applications split off from the original one, the four patents containing together ninety-eight claims. It does not seem just that the patentee, who was powerless to obtain any modification of the rule for dividing applications, should be made to suffer from such misdirected energy."

The practice of the office with reference to division has at times changed with the change of Commissioners. In 1884, the Commissioner referring to the language of the statute said in Ex parte Blythe, 30 O. G., 1321:

> "I am compelled to hold that the plain provisions of the statute, as well as the weight of judicial opinion and the dictates of what seems to me common sense, requires that arts, machines, manufactures, and compositions of matter should be made the subjects of separate and independent patents except as indicated."

But a year and a half later the succeeding Commissioner stated in Ex parte Young, 33 O. G., 1390, that he had no hesitancy whatever in saying, generally, that the unqualified statement that claims for method, apparatus, etc., are prohibited by the statute from ever being joined or included in one patent was faulty, and, in his judgment, could not be sustained.

Lying between such extreme views are found the principles which define the practice of the office. While the matter of fees is not to be neglected which, during the years since the patent system was inaugurated, have created a surplus of more than $7,000,000, nevertheless much latitude is afforded an applicant in the scope and character of the claims which shall protect him in the use of his invention. Where only a single invention is claimed the question of division naturally does not arise. For whether claimed generically or specifically the invention remains the same (Ex parte Lord, 50 O. G., 987). But where different, distinct inventions are involved, the question of proper joinder has to be considered.

Two conditions are clearly stated in Rule 41, which says:

> "Two or more independent inventions can not be claimed in one application; but where several distinct inventions are dependent upon each other and mutually cooperate to produce a single result, they may be claimed in one application."

Inventions thus fall into two groups—independent and dependent inventions, and it is the purpose of this paper to ascertain what is comprehended by each of these terms. It may be stated that the principles underlying the present practice of division are both few in number and general in character.

The independence of different species was long ago enunciated in Ex parte Eagle, 1870 C. D., 137, and has been affirmed in many later decisions.

Two devices, even though they are classified in the same office class, are independent inventions if independent in structure and operation. Ex parte Davidson, 101 O. G., 1371.

And if the claims cover inventions so independent that each requires an independent search to determine its novelty, division should be required. Ex parte Adams, 106 O. G., 541.

Independence between combination and subcombination, where the latter has acquired a distinct status in the arts, manufactures, and office classification, and is useful in other relations, is affirmed in Ex parte Moriarty 99 O. G., 2549, and Ex parte Dyer, 15 Gour., 36-11. As stated in Ex parte Herr, 41 O. G., 463, and later in Willcox and Borton, 45 O. G., 455, wherever the original invention is such that it could be the subject of a patent and the organism was not changed in its structure or identity, it is believed that several improvements on its parts may be embraced in one patent, providing they cooperate in affecting the whole organism, improving it as a whole, and provided, also, invention and art have not subsequently so advanced as to select the improved parts as distinct subjects of invention, art and manufacture.

If there is absence of any necessary relation between a process and the apparatus by which it is carried out, the inventions are independent. Ex parte Frasch, 117 O. G., 1166.

So also independence exists between a process and a product when the process can result in other products and the product be made by other processes (Ex parte, McHale, 18 Gour., 41-26); or between a process and a product which may be made by other processes (Ex parte Schmidt, 100 O. G., 2602); or between a process and an article which is independent of any particular process (Ex parte Williams, 105 O. G., 1780); or between a process and product when the product has acquired a distinct status in the arts, manufactures, and office classification (Ex parte Christensen, 105 O. G., 1261).

Independence exists between a composition and the process of using the same. Ex parte Tschirner, 97 O. G., 187.

Division can not be required in a reissue application. Ex parte Van Nostrand, 194 O. G., 1141.

These few simple statements substantially embody the general principles upon which the practice of the office is based.

Prior to February, 1904, division was held to be a matter of form to be considered by the Commissioner on petition and, to unify the practice in a measure, Rule 41 had been formulated requiring that process and apparatus be claimed in separate applications. But the United States Supreme Court in Stinemetz *vs.* Allen, 109 O. G., 549, overruling the conclusions of all lower tribunals not only declared this rule at fault because making a hard and fast rule where discretion must be exercised, but declared that the question of division was a matter of merits appealable to the Board of Examiners-in-Chief. From February, 1904, until June, 1914, 175 appeals relating to division have been decided by the Examiners-in-Chief in accordance with the principles above mentioned.

These decisions being unpublished have not been available to the examiners and it is a significant fact that in more than 60 per cent of all such appeals the examiners have been reversed, this being largely due to the impossibility of ascertaining, except in isolated cases, the way in which these general principles were being applied by the Examiners-in-Chief to specific cases. It may not be amiss, therefore, to give a brief synopsis of a few representative decisions from applications which have now matured into patents, covering the various classes of questions which commonly arise, and which may outline what is to be considered the practice of the office.

UNRELATED DEVICES.

Ex parte Bean, Patent 1,030,702:

In a shoe-blacking machine, three sets of claims covering (1) brushes and means to operate them; (2) the same brushes and means to apply blacking to them, and (3) the same brushes, a foot rest and means to raise and lower the rest, were held to be related in purpose and properly joined, while claims to a different set of brushes and operating means therefor to polish a different part of a shoe were held to cover an unrelated machine, though mounted on the same base. The ultimate object of the two sets of brushes was the sum of their separate objects and not a unitary result. Each machine accomplished its own work completely, without being affected in any way by the operation of the other.

Ex parte Frasch, Patent 951,721:

Requirement for division was sustained between claims to the separating portion of an oil purifying apparatus, and a pump useful in other relations and a rectifier adapted for use in any place where a rectifier is needed, each having acquired a distinct status in the arts and manufactures.

RELATED DEVICES.

Ex parte Morgan, Patent 975,563:

Two sets of claims covered respectively, means for inserting a bit, and means for removing a bit. Held, that although the devices might be used separately or together, there is no practical reason why applicant should not be permitted to exercise the option of joining the two in one application since they have not acquired a distinct status in the arts and manufactures, and, except in the case of species, the office rarely, if ever, has gone ahead of the time when inventions have acquired such distinct status. Rules of joinder are interpreted as applying to inventions as they are found in the art and not as things apart from the art.

Ex parte Smith, Patent 1,026,714:

Several sets of claims relating to beet harvesters covered cutting and pulling mechanisms alone and in combination. The combination being old in the art, division had been required between the different mechanisms. Two patents were found showing one of the inventions claimed separately, but no separate office classification had been established. It was contended that two patents indicate the independence of the inventions and the necessity of division as truly as a hundred, and office classification should follow. Held, that division should not be required since two patents may indicate the existence of an invention, but that manufacture and sale are important factors in determining its status in the arts.

Ex parte Levi, Patent 968,245:

This application contained claims for an ornamental cover for a box, to act as a frame for the goods displayed in the box, and claims for a card to hold the article displayed in the bottom of the box. Either could be used without the other, and separate patents for each invention have been secured. Held, that division should not be required, since these inventions have not acquired a distinct status, they were intended to be used together and neither office classification nor the work of examination could be especially facilitated by division, which is after all largely a matter of discretion.

Ex parte Wagner and Malocsay, Patent 920,698:

This application related to an improvement in a machine for applying bands to cigars, designed to gum the bands, wrap the same around the cigars, and secure the overlapping ends together. One set of claims relates to the mechanism for transferring a band from a stock of bands in a holder. Other sets of claims relate to the gumming of the bands, the delivery of the article, the closing of the band, and a delivery carrier for the finished article. The examiner held that the band transferring claims should be divided out and classified with Pneumatic Separators under Printing, thus obviating the difficulty of classification and examination incident to the presence of such devices in many widely different arts. The decision of the Board is in part as follows:

> "The rule as to joinder of inventions is that independent inventions can not be claimed in one application, but that where the inventions, though distinct, are dependent upon each other and mutually contribute to a single result, they may be claimed in one application. . . . The office classification can not, of course, establish the fact of the independence of any given two or more inventions. The office classification is only evidence to show how the several subjects-matter are there classified. In short, the independence of invention is one thing and its classification another and different thing. Thus in the case of species, for example, their independence of invention is conclusive from the fact that they are species. And yet the several applications for the separate species are classified in the same art and in the same sub-class. In any event the office classification simply follows the art, accepting it as it finds it, and does not announce any opinion as to the independence of invention in any given case. . . . It can not be indubi-

tably said that the claims for the transferring device and its combination with the holder are independent of the claims for the other combinations, the devices in both sets of claims, each and all, going to make up the organized machine for banding articles. The fact that the transferring device is similar to transfer devices in other arts, or might be used therein, is not conclusive evidence of the independence of the other inventions in the banding machine of which it constitutes a part. . . . There is no evidence that the transfer device claimed in this application has a sovereignty of its own, such, for example, as a mechanical element has in the arts at large. Though, perhaps, it might facilitate the examination of applications and inventions were all transfer mechanisms classified together and subclassified according to their character, such classification is more of a wish, and, as such, father to the thought, for independence of invention than any real evidence establishing the fact that the transfer device herein and the other parts of the banding machine are, in fact, independent inventions."

COMBIANTIONS AND SUB-COMBINATIONS.

(1) Unrelated.

Ex parte Howard & McKee, Patent 840,332:

Claims for a mail carrying receptacle and a specific harness for carrying the same held improperly joined with claims for a specific receptacle, the latter having attained a distinct status in the arts and manufactures and capable of use with other forms of harness.

(2) Related.

Ex parte Johnston, Patent 837,475:

The claims were drawn to a sash cord guide comprising a pulley and casing having certain cooperating features, and to a pulley having certain of said features. Although the office classification has a class of pulleys, yet it was held that division should not be required since office classification should not be followed in requiring division unless it appears that the reason for the existence of the separate class is the reason on which the requirement for division is based. The pulley as claimed had certain structural features which were designed with special reference to certain structural features of the casing, and therefore it was a dependent and related invention.

Ex parte Fessenden, Patent 857,985:

A claim for a key was held to be properly joined with claims to a watchman's time recorder, the key having both a locking edge and a ward to actuate the recorder, and being therefore a removable part thereof.

Ex parte Brown, Patent 922,385:

This application contained claims to a type bar having inclined type faces, and claims to a platen having a certain movement rendered necessary by the inclination of the type, and claims to the combination of the two. It was admitted that type bars and platens have each acquired a distinct status in the arts and office classification, yet joinder was permitted as related inventions because of the relation between the shape of the type and the movement of the platen.

Ex parte Clark, Patent 837,894:

A storage battery has two terminals—one permanent, the other detachable. There were claims generic to both forms, claims specific to each, and claims specific to both. Although they can be used independently or one substituted for the other, yet they may be joined because in the mind of the inventor they were intended to be used together, the construction being such as to afford permanent electrical connection between plates at one end and the detachable terminal permitting ready separation of one cell from another.

Ex parte Matthews, Patent 950,489:

Held, that claims to the combination of a coupler and specific form of uncoupler, were properly joined with specific claims to the coupler.

Ex parte Kelso & Kelso, Patent 1,024,083:

Held that division should not be required between a car coupler and a knuckle, where the knuckle was limited by features particularly designed to cooperate with this coupler.

Ex parte Holson, Reissue Patent 7341 (before Ex parte Van Nostrand, supra).

Claims to a train of gears were properly joined with combination claims for an electric motor and gearing. It was held that gear trains did not have a distinct status in the arts as machines for separate manufacture and sale. Every manufacturer of machines makes such gear trains as are necessary for his particular use. They may be joined as sub-combinations in the same application with the combination claims, or may be claimed in a separate application. The fact that they are often separately applied for does not justify the requirement for division. The test is whether each device is, in industry, under a distinct name made and put on the market and sold for general use.

GENUS AND SPECIES.

Ex parte Christensen, Patent 940,673:

This invention related to a telephone exchange system. One set of claims were commensurate in scope with patents in a certain sub-class. Other claims, by including the mechanism more specifically, were commensurate in scope with patents in another sub-class. Held that the claims bore the relation of genus and species. The fact that they correspond to an arbitrary line of classification should not determine the question of joinder It does not appear that the inventions set up in the two sets of claims have been made the subject of separate manufacture and sale.

COMBINATION WITH SPECIFIC ELEMENTS.

Ex parte Renstrom, Patent 897,491:

Certain claims covered a gas generator broadly, and a gasometer specifically, while others included the gas generator specifically and the gasometer broadly. Held that division should not be required; both sets of claims being drawn to the same invention.

Ex parte Tyler, Patent 900,239:

Where each claim is drawn to a separate modification but all are generic to one certain modification, held division should not be required.

MODIFICATIONS.

Ex parte Sprotte, Patent 826,379:

Division was required between claims to a finger board having transparent portions, and claims to a finger board having sight openings therein, these being distinct modifications.

COMPOSITIONS.

Ex parte Ernst, Patent 1,019,443:

One claim was drawn to a composition consisting of two ingredients in definite proportions, and another to the two ingredients in combination with a restrainer. Held, that since the restrainer was not an essential element of the combination, and could be used or not, at will, division should not be required.

COMPOSITIONS AND METHOD OF USING.

Ex parte Betzer, Patent 968,528:

The claims covered a method of generating oxygen from a compound, and a compound for generating oxygen by the method. Held, that the composition has no other function, and the method could not be carried out by the use of any other composition, and since the field of search is the same, and no additional burden is placed upon the office, they may properly be joined.

Ex parte Knetsch, Patent 794,512:

Division was required between a catalytic agent and a process of manufacturing sulphuric anhydride, which used this agent, because catalytic agents have hitherto been employed in similar processes, and because this agent does not differ in its effect from other agents, and because this agent may be used wherever a catalytic agent is needed, and because the field of search is different for the agent and the process.

APPARATUS AND PRODUCT.

Ex parte Hoefer and Strohhaecker, Patent 966,746:

Four groups of claims covered (1) a body of meat wrapped with cord which was looped together in stitches, (2) the specific stitch; (3) the machine for sewing the wrapping and (4) mechanism for handling the meat and advancing the package during the sewing. It was held that the stitch and the wrapping of which it was an element might be joined, but the machine by which the stitching was done was an independent invention and division should be required.

It was also held that the machine for handling the meat and feeding the package as the wrapping was being sewed, had not acquired a distinct status in the arts and was so related in its ultimate purpose to the sewing mechanism that these two inventions might be joined in one application.

PROCESS AND APPARATUS.

Ex parte Eggleston, Patent 1,018,040:

Division was required between a process of separating hydrogen sulphide from oil, and an apparatus for treating oil, because there was so little in common to the two inventions and because of absence of necessary relationship between them.

Ex parte Monnot, Patent 910,405:

In this case division was not required between a process and the apparatus by which it is carried out, because their relation was so close that their independence was not clear, and even though the process might possibly be carried out by other apparatus, the field of search was the same.

Ex parte Peirce, Patent 914,303:

Held that division should not be required between the process of cutting marble with a wheel of carborundum, and a machine for cutting marble having a carborundum wheel, since there was only one novel idea involved.

PROCESS AND PRODUCT.

Ex parte Beckwith, Patent 1,023,357:

Division was held to be proper between claims to the process of forming a filament, placing it on a frame and mounting the frame in a lamp bulb, and claims to an incandescent lamp having a filament in zigzag form, because the article was not limited in terms to a structure necessarily made by the process, and also because they have been recognized by inventors as distinct inventions to such an extent as to justify the office in forming different sub-classes for them.

Ex parte Hooper and Robertson, Patent 867,658:

Division was held to be proper between claims for a process of wire drawing and an electrical conductor made by the process, because the independence of particular electric conductors and the process of wire drawing by which they are formed is so well established and so well recognized that they are separately classified in this office, and are examinable in different divisions.

Ex parte Haefley, Patent 858,385:

The inventions here were insulating tubes and the method of making them.

The process claims were paralleled by the product claims in the sense that this particular article must necessarily result from the performance of the process as stated in the process claims. Whether the product could be practically produced in any other way than by the execution of the specified process seemed to the Examiners-in-Chief extremely doubtful. A search for either of the alleged inventions would doubtless determine the patentable novelty of the other. Therefore, there is such close relationship between them that division should not be required.

Ex parte Monnot, Patent 894,162:

Compound metal bodies and process of producing them. The process disclosed must result in the product, but the product is not necessarily produced by this process only. Held, that there is no knowing what the future may develop, but since at the time there was no other process known for making the product, division should not be required. The board further said:

> "Rule 41 specifically provides for covering distinct inventions in one case where they are dependent on each other and mutually contribute to a single result. Here the process is ancillary to the article—the latter is the single result of the inventions stated in both sets of claims. There is nothing contrary to Rule 41 in the joinder of the process and product claims.
>
> "It may be that separate patents covering respectively, the process and product would both be valid if granted. At the same time it is perfectly clear that a single patent covering both process and product would be valid. It is generally to the advantage of the public that two inventions, one of which is dependent on the other, be covered in a single application, as otherwise they may get into hostile hands and the public be deprived of the use of the dependent invention during the life of the dominant patent. Further, the poverty of the inventor may, in case of a requirement of division, cause a loss to the public of the invention eliminated from the application. Further, aside from the question of validity of the

patents, if granted, the joinder in a single case of two or more inventions means a saving of one or more fees to the applicant.

"In our opinion applicant should be permitted to elect the protection to be afforded him in the absence of controlling reasons to the contrary. Where no question of validity arises, as in the present case, the only possible reasons assignable against joinder in one application are, first, the exigencies of office classification, and, second, the fact that applicant obtains for one fee, that for which he should pay two fees. The second of these reasons is, in a case like the present, so unimportant as compared to the other considerations as to be negligible, especially as it would appear that a single search would cover both inventions, and there would, therefore, seem to be no reason for requiring two fees of applicant.

"As to the first reason, the question of office, classification, while always to be considered, is by no means controlling in all cases. Where the inventions have been made, by workers in the art, separate subjects of invention to such an extent that separate sub-classes have been created for the inventions, and that, therefore, they would be separately classified if presented in separate applications, division would, in general, be a proper requirement. In the present case, however, it does not appear that the process and article are separately classified, but even if such were the case, the relations between the process and the article are so close that we should hesitate to affirm a requirement for division."

SUMMARY.

It is therefore apparent, as clearly set forth in Ex parte Lord (supra), that three conditions may exist: First, there may be claims which must be joined, such as claims to genus and species; second, claims which may or may not be joined, at the option of the applicant, viz., dependent and related inventions; and, third, claims which can not be joined, such as claims to different species and claims for entirely distinct and unrelated inventions.

The test as to what constitutes independence of invention appears to be inherent in the ideas of the inventors themselves—whether the inventions were looked upon by those working along those lines as occupying different fields. Office classification is no test. Office classification, it is to be observed, arises from two considerations, viz., convenience in the work of searching and the existence of distinct fields of inventive effort. The latter only is a factor in the solution of the question. Sub-combinations of a machine involving its various mechanical movements may be separately patented at the option of the inventor, but he can not be compelled to divide. The fact that such sub-classes exist for the reception of sub-combinations which inventors may see fit to divide out and cover by separate patents does not establish the fact that the idea covered by the mechanical movement is not a part of his larger invention and closely related thereto. It frequently happens that the larger invention is found not to be new with an applicant, and the claims are further and further limited until only a small fraction of the original invention is found to be patentable, and this after traveling from one division to another at last finds a resting place in the machine element class. This, however, under the consistent practice followed by the Examiners-in-Chief, would not constitute a valid ground for thereafter requiring every applicant to divide out claims to similar sub-combinations. As set forth in the decisions cited, a few patents do not establish the independence of an invention. They may be the first faint movements toward a final declaration of independence, but they may, on the other hand, be simply the remains of a larger invention, which has run the gauntlet of the prior art, or the product of what has been before referred to as the misdirected energy of the Patent Office.

The truest and surest test of independence of invention is the fact of separate manufacture and sale, and a distinct name in the trade. Failing in the possession of such a sure criterion, the examiner must analyze the case to discern, if possible, whether or not the ideas underlying the different inventions are distinct or are related as component elements in the accomplishment of a definite, practical, and unitary purpose. In many instances, the lines which mark the boundaries of independent inventions are clear-cut, and occasion no doubt or question. In marginal cases, the examiner can do no better than remember that discretion in the exercise of a public trust with which Congress invests the Commissioner, and those who represent him, and be guided in his actions by the general rule, that related inventions may be joined unless the mind of that great body by whose genius the useful arts have been developed has seen them as distinct subjects for inventive consideration.

December 17, 1914.

25

Rules 75, 94, 96, and 124, Read in the Light of Decisions Explanatory Thereof.

A paper read January 7, 1915, before the Examining
Corps of the United States Patent Office.

BY

GEORGE A. NIXON,
Principal Examiner, Division Thirteen,
U. S. Patent Office.

WASHINGTON, D. C.
1915

Rules 75, 94, 96, and 124, Read in the Light of Decisions Explanatory Thereof

By

G. A. NIXON,
Examiner, Division Thirteen,
U. S. Patent Office.

The purpose of this paper may be thus explained:

A number of the Rules of Practice have been amended, and some new rules have been added in view of, or in consequence of, certain decisions of the Commissioners and the courts. Other rules have had their meaning more fully explained or their scope more clearly indicated in decisions of the Commissioners. What I purpose to do is to consider a few of these rules in connection with the decisions on which they are founded or which interpret and explain their meaning, in the effort to thus render less difficult and more accurate the application of the rules to particular cases.

RULE 75.

A number of important decisions have been rendered by several Commissioners with regard to the nature of the showing that must be made under Rule 75 for the purpose of overcoming references. The first of these in order of date was *Ex parte* Gasser, 17 O. G., 507, in which Commissioner Paine held as follows:

> "The applicant, being rejected on an unexpired patent, shows, by an affidavit filed under Rule 74 (now 75), 'that he made the invention' before the filing of the patented application. This is a mere assertion of invention. 'It may embody a legal opinion as well as facts. To avoid a rejec-

> tion on an unexpired patent the applicant is required by Rule 74 to make oath to 'facts showing the completion of the invention before the filing of the application for the domestic patent.' It is not necessary that the earliest actual date of his invention should be shown, but he must show a date prior to the filing of the application on which the unexpired patent was granted.
>
> "The rule is not to be so interpreted as to deny a patent or an interference to an inventor who, being first to conceive a device, was diligent in the prosecution of his invention, but was not the first to reduce it to practice. But it is to be so construed as to require the applicant to make oath to facts showing his right to a date of invention prior to that of the filing of the patented application. The applicant, therefore, must state on oath facts showing either that a reduction to practice had been made before the filing of the application on which the patent was granted, or that the invenhad been conceived before that time, and by due diligence connected with a subsequent reduction to practice."

This decision was followed by *Ex parte* Saunders, 23 O. G., 1224; *Ex parte* Hunter, 49 O. G., 733; and *Ex parte* Donovan, 52 O. G., 309, in which decisions *Ex parte* Gasser was approved and in which the Commissioners at considerable length set forth the nature of the proof required by Rule 75 in order to overcome an anticipating reference. The mere naked statement of an applicant that he completed the invention prior to a specified date was said to be an insufficient compliance with the rule, which requires an oath to facts showing a completion of the invention by him before a certain date. If the applicant rests his claim of invention upon drawings or devices made by him, he should produce such drawings or devices or furnish copies or representations of the same, in order that the office may judge whether he in fact made the invention claimed in his application before the date specified.

In the development of an invention from its first crude conception and embodiment to the perfected form in which it is disclosed in an application for patent, it might be the belief of the applicant that at a certain date he had made the invention disclosed in a cited reference. This, however, would be a mere matter of opinion. Different minds might reach different conclusions. It was accordingly held in *Ex parte* Saunders, that—

> "no patent will hereafter be granted, therefore, for inventions disclosed in prior patents or publications until the applicant shows by exhibits or descriptions properly verified by oath that the invention was made and completed by him in a patentable sense before the date of the application upon which the patent was granted or before the date at which the printed publication was made."

The purpose of these decisions with reference to the kind of showing required under Rule 75 is to put before the examiner in a tangible way, evidence upon which the applicant relies to overcome a reference, so that the examiner may be in a position to determine whether or not the rejected claim covers the article or machine which applicant avers he made before the date of the anticipating reference. If the rule permitted the mere statement, under oath, of the applicant that he completed the invention before the date of the reference, to be sufficient to overcome such reference as an anticipation of the claim, it would permit the question of anticipation to be decided by the opinion of the applicant. This is the function of the examiner. Drawings or a model are preferable for the reason that they show in a more definite and distinct way than could any verbal description, no matter how complete it might be, just what was the antedating device. Under the well-recognized rules of evidence, it would be best if the device itself and not merely a model or drawing thereof should be filed. Ordinarily, however, at least in the case of machines, this would be impracticable, and accordingly, the ordinary practice is to file models or drawings. Models or drawings are also generally preferable, as they can be more readily filed as a part of the permanent record of the application.

In *Ex parte* Hunter, *supra,* the question considered was as to the *completion* of the invention before the date of the reference. The showing was clearly sufficient to show a conception of the invention in 1883, the references cited being a publication bearing date 1887, and two patents the applications for which were filed July 30, 1887, and March 5, 1888, respectively. The affidavit stated that the invention as shown was embodied in a car constructed in the year 1887, and that other cars embodying it were begun in the early spring of 1888, and had been used since September 4, 1888. On this showing the Commissioner held as follows:

> "It therefore appears, if it be conceded that the drawing discloses the invention, and of this there seems to be no doubt, that in 1883 petitioner had a conception of the invention, but that there was no complete reduction to practice of the same until after the dates of the references. The invention in controversy, therefore, can not be said to have been completed before such reference dates. If the petitioner is entitled to his patent in the face of the disclosure of the references, it must appear, as was stated by Mr. Commissioner Paine, that he has connected his prior conception by due diligence with his subsequent reduction to practice. Such diligence has not been shown. It is true that petitioner avers 'he has used every diligence possible in putting the invention into use,' but a mere statement of this character unaccompanied by any facts which tend to show such diligence is not a sufficient compliance with the rule as interpreted by the office."

It is an exceedingly liberal rule that permits the withdrawal from the public of an unclaimed invention in a prior patent; and it is believed for this reason that the requirements of Rule 75 should be strictly enforced. The *ex parte* showing required by this rule should be such as to establish the same state of facts as would be required in an interference between the application and patent. To this effect is *Ex parte* Grosselin, 97 O. G., 2977, in which Commissioner Allen held as follows:

> "The statutes make no provision directly by which an applicant may establish his right to a

> patent over a reference showing and describing but not claiming, the invention by proving that he is in fact the first and original inventor. There can be no contest where the reference is not a United States application or patent claiming the invention. By analogy to the statute relating to interferences, however, the applicant should be permitted to show in some way that he is the prior inventor and entitled to a patent in spite of the reference, and since there can be no contest the Office, by Rule 75, permits him to make an *ex parte* showing of his rights. In that *ex parte* showing, however, it requires the same kind of facts to be set forth which, if true, would establish *prima facie* his right to a patent even if the reference claimed the invention. The whole proceeding is by analogy to the interference practice, and therefore it follows that practice as closely as possible. This is necessary for the protection of the public."

Accordingly, therefore, it is not sufficient, in order to overcome a prior patent as a reference, to show that before the date of the application on which the patent was granted, the invention had been reduced to practice by the applicant, if the knowledge of his invention was deliberately concealed from the public until after the grant of said prior patent. See Mason *vs.* Hepburn, 84 O. G., 147.

If the Examiner is of the opinion that an affidavit filed under Rule 75 is insufficient, he should reject for that reason (*ex parte* Donovan, *supra*).

A deposition taken in an interference proceeding is an affidavit under the meaning of Rule 75 and should be received as such (*Ex parte* Keller, 61 O. G., 1790).

Affidavits filed by a party under Rule 75 should be sealed up or removed from the file before the papers in the case are thrown open to the inspection of opposing parties in an interference (*Ex parte* Gasser, *supra*, and Davis *vs.* Ocumpaugh *vs.* Garrett, 103 O. G., 1679).

The filing of an incomplete application does not constitute "a completion of the invention" within the meaning of Rule 75, as no patent can be granted on an application until it is complete (*Ex parte* McElroy, 140 O. G., 1207).

RULE 94.

The affidavit required by Rule 94 is not of the same character as that required by Rule 75, since Rule 94 does not call for the showing of facts required by Rule 75. The reason for this is clear, since as a result of an oath filed under Rule 94, the application will go into an interference, in which, in an *inter partes* contest, will be proven the same facts that would be required to be set forth *ex parte* under Rule 75, if the patent did not claim the invention. See Ries *vs.* Thomson, 57 O. G., 1598, and *Ex parte* Davis, 62 O. G., 1516.

RULE 96.

Present Rule 96 reads as follows:

> "Whenever the claims of two or more applications differ in phraseology, but cover substantially the same patentable subject-matter, the examiner, when one of the applications is ready for allowance, will suggest to the parties such claims as are necessary to cover the common invention in substantially the same language. The examiner will send copies of the letter suggesting claims to the applicant and to the assignees, as well as to the attorney of record in each case. The parties to whom the claims are suggested will be required to make such claims and put the applications in condition for allowance within a specified time in order that an interference may be declared. Upon the failure of any applicant to make the claim suggested within the time specified, such failure or refusal shall be taken without further action as a disclaimer of the invention covered by the claim, and the issue of the patent to the applicant whose application is in condition for allowance will not be delayed unless the time for making the claim and putting the application in condition for allowance be extended upon a proper showing.

> If a party make the claim without putting his application in condition for allowance, the declaration of the interference will not be delayed, but after judgment of priority the application of such party will be held for revision and restriction, subject to interference with other applications."

This rule was adopted for the purpose of carrying into effect the practice set forth by Hammond *vs.* Hart, 83 O. G., 743. Preceding this rule, but subsequent to Hammond *vs.* Hart, Rule 96 read as follows:

> "Whenever two or more applications disclose the same invention, and one of said applications is ready for allowance and contains a claim to said invention, the primary examiner will notify the other applicant of such fact, furnish him with a copy of the patentable claim, and require him to make such claim and put his case in condition for allowance within a specified time, so that an interference can be declared. Upon the failure of any applicant to make the claim suggested within the time specified, such failure or refusal shall be taken without further action as a disclaimer of the invention covered by the claim, and the issue of the patent to the applicant whose application is in condition for allowance will not be delayed unless the time for making the claim and putting the application in condition for allowance be extended upon a proper showing. If a party make the claim without putting his application in condition for allowance, the declaration of the interference will not be delayed, but after judgment of priority the application of such party will be held for revision and restriction, subject to interference with other applications."

It will be observed that present Rule 96 differs from this earlier rule principally in the fact that under the earlier rule, in order to warrant the suggestion of claims, it was only necessary that the several applications should *disclose* the common invention; while under the present rule the claims of the applications must cover substantially the same patentable subject-matter in order to authorize the examiner to suggest claims to this subject-matter. The former rule was obviously not in accordance with Hammond *vs.* Hart, and was superseded by the new rule for that reason.

It will be interesting, and it is believed instructive, as to the meaning of Rule 96, if the development of the practice of declaring interferences from Ex parte Upton, 27 O. G., 99, up to the adoption of present Rule 96 be considered. In Ex parte Upton, which was rendered by Commissioner Butterworth, the following was stated:

> "The examiner says:
>
> " 'This appeal is taken from the action of the primary examiner refusing a patent to the applicant, in view of Patent No. 282,449 to T. H. Dodge July 31, 1883, and involves a question of practice as to the right of the examiner to cite as a reference a patent granted on an application pending at the same time with the application under consideration.
>
> " 'The application at issue was filed June 25, 1883. That of the patentee, Dodge, was filed December 15, 1879, and a patent accordingly issued as above July 31, 1883. No question is here raised as to the pertinency of the reference from lack of identity of subject-matter. In fact, it is acknowledged to be generically the same in both. Dodge, the patentee, made one very limited claim to the construction shown and described. The applicant makes broad claims to the genus, and denies the right of the examiner to cite said patent, holding that under the rules either an interference should be declared or both patents allowed to issue, and cites Rule 74 as sustaining his views. No interference exists nor has at any time existed.'
>
> "The examiner is in error as to there being no interference. An interference does and did exist. The spirit of the interference rule is not that claims must conflict in terms in order to constitute an interference, but that the subject-matter claimed must conflict. It is not necessary that the

> claims should be so alike that the claim in either case will apply just to the matter or device of the other. If the claim of one party will include that of the other, there is an interference in fact. The Dodge case having got to issue, the examiner was right in citing the patent to the applicant. It should be settled in the Patent Office who is entitled to the broad claim, and this should appear as the result of an interference proceeding.
>
> "Neither the spirit of the law nor public policy sanctions the granting of patents with specific claims while applications with generic claims which include the specific claim allowed, are still pending, the 'objection' being that whether the application with the generic claim pending belongs to the same party who has a specific claim under the genus, or is an application of a different party, a patent covering by a generic claim, if a subsequent patent, improperly extends the monopoly."

The practice under the Upton decision, therefore, was to declare an interference between two or more applications whenever any one or more of the applications contained a claim or claims which were broad enough to dominate or include the claims made in the other applications. These broad claims were made the issue of the interference, and the interference was declared without the suggestion of claims, and in many cases, probably in most cases, the limited claims were such as could not have been made by the party making the broad claims.

This practice was followed until Reed *vs.* Landman, 55 O. G., 1275, rendered by Commissioner Mitchell in 1891. In this case an interference had been declared between Reed's application containing broad or dominating claims and Landman's patent, none of whose claims could have been made by Reed. After a rather extensive review of the decisions of the courts and a very full consideration of interferences between applications and between applications and patents in the Patent Office, the Commissioner arrived at the following conclusions:

> 1. That interferences in the Patent Office, like

> interferences in the courts, exist only when the claimed inventions conflict.
>
> 2. That generic and specific claims based upon the same structure of invention conflict because the invention is one and the same, whether generically or specifically stated.
>
> 3. That an interference should not be declared between an unexpired patent which shows and claims one species of an invention and a subsequent application disclosing another and different species, even though the latter contains a claim of sufficient scope to include the species claimed in the unexpired patent.
>
> 4. That where a patentee claiming specifically would be entitled to all of his claims, even if he were an applicant, in spite of a judgment of priority in favor of his opponent, the fact that his opponent's claim would dominate his own is no sufficient reason for declaring or continuing an interference. Rule 75 provides for precisely such a case, and unmistakably states that on filing the proper antedating oath, the unexpired patent shall cease to be a bar.

It was accordingly decided, therefore, by this decision, that in the case of an application and a patent, in which the only claims in the patent were specific to a structure different from that of the application, no interference should be declared between the application and the patent, notwithstanding that the applicant made claims which would dominate or include the claims of the patent. It was, perhaps, not quite clear from this decision whether or not an interference should be declared between two applications, one of which made broad claims and the other of which had only claims limited to a structure different from that of the application having the broad claims. It was made clear, however, in the later decision of Kinyon *vs.* Carter, 66 O. G., 513, that in such cases an interference ought to be declared. Assistant Commissioner Fisher, in rendering this decision, stated:

> "Applicant Kinyon has a broad claim, which covers not only the particular form shown in his

application, but also the form shown in Carter's application. Carter's application has one claim, which is limited to the specific form shown. Kinyon, the applicant having the broad claim, is the one who seeks to have the interference dissolved.

"The question to be decided, therefore, is whether or not it is proper to declare an interference between two applications which show and claim different species and only one of which has a claim broad enough to cover both species. If each application contained this broad claim, it is unquestionable that an interference ought to be declared. (Searle *vs.* Frumveller *vs.* Sessions, C. D. 1892, 27; 58 O. G., 804; Dodd *vs.* Reading, C. D. 1892, 49; 58 O. G., 1413.)

"If one of the cases is a patent and the other an application and the patent contains narrow claims to one species and the application broad claims dominating those of the patent and specific claims directed to a different species, it is also unquestionable that an interference ought not to be declared. (Reed *vs.* Landman, C. D. 1891, 73; 55 O. G., 1275; Zeitinger *vs.* Reynolds *vs.* McIntire, C. D. 1891, 212; 57 O. G., 1279.)

"It becomes necessary, therefore, to consider whether the principle governing the present interference is the same as that governing the interference between a patent and an application.

"It is obvious that the applicant Carter might have had a claim in his application as broad as the broad claim in the Kinyon application. In such case an interference would be proper. It is also obvious that the applicant having the narrow claim may not wish to contest the interference. In such case he might file a disclaimer, under Rule 107, and the interference would be dissolved as a matter of course. If, however, an interference had never been declared, both cases would have been passed to issue and the applicant having the single narrow claim would find his patent dominated by the patent having the broad claim without having had a chance to have decided by an

> interference which party was entitled to the broad claim as being the original inventor. His only remedy, as far as this Office is concerned, would be to file a reissue application and demand that it be put in interference with the patent containing the broad claim. If this should be done and he should succeed in this interference, the reissued patent would contain the broad claim and the claim to the species shown in his application. There would then be extant two patents having an interfering claim. This would necessitate a suit in equity if either patentee wished to have the broad claim of the other patentee declared void. Necessarily this would result in an increase of litigation, and if interferences in this office have any justification it is that they should, in some measure, prevent litigation by having only one of the interfering applications mature into a patent.
>
> "I therefore think the action of the examiner in declaring an interference was proper. If the applicant having the narrow claim does not choose to contest the interference, he can easily avoid such a proceeding by filing a disclaimer under Rule 107. For the applicant having the broad claim, as in the present case, to bring a motion for dissolution seems indefensible. He practically asks that the broad claim be allowed to him and refused to another applicant who has a right to make it."

The practice under Reed *vs.* Landman and Kinyon *vs.* Carter continued until Hammond *vs.* Hart, before referred to. In this case, in which an interference had been declared between the pending applications, Commissioner Duell, after a review of the court decisions, stated at length his reasons for disagreeing with Ex parte Upton, Reed *vs.* Landman and Kinyon *vs.* Carter. These reasons may be more briefly stated as follows:

That it is not the province of the Patent Office to settle who is entitled to any claim, broad or narrow, unless an applicant first makes the claim. In the case of *Ex parte* Upton, since the patent contained no claim for the broad invention, if the applicant complied with the requirements of Rule 75, he would have done all that should have been required of him to have had his claim allowed without an interference. That the spirit of the law can only be determined by its language and by the decisions of the courts construing this language. That it is unsafe to conclude that what the law requires is contrary to public policy. Further, that the objection of an improper extension of the monopoly is not well founded. That under a long line of reported cases a patent with a specific claim and one with a generic claim would undoubtedly be held not to be interfering patents. That a monopoly is extended only when two patents claim the same thing in the same breadth. That so far as the Upton case holds that an interference should be declared between two applications or between an application and a prior patent whose claims are not substantially identical in tenor and scope it is not well founded in law.

As to Reed *vs.* Landman, Commissioner Duell did not agree that "generic and specific claims, based on the same structure of invention conflict, because the invention is one and the same, whether generically or specifically stated." The Commissioner, however, stated that—

> "It is not essential to the decision of this case to assert that this contention is clearly erroneous, and the necessity for its application to any given case hereafter can easily be avoided. Where two applications are concurrently pending having claims of different scope drawn on the same structure, I see no good reason why the examiner should not give the applicant making the specific or narrow claim an opportunity, by suggestion, if necessary, to make the broader claim. If the suggestion is followed, then the parties would be making a claim identical in tenor and scope, and an interference will properly and naturally follow."

Commissioner Duell also disagreed with Kinyon *vs.* Carter in holding that an interference exists when different specific forms are shown by two applicants, both capable of being covered by a broad claim, although but one of the applicants makes the broad claim, while the other makes a claim limited to his species, holding that the same rule is to be applied in an interference between two applications, and one between an application and a patent. In both cases an interference does not and can not legally exist unless the claims are coextensive.

This part of the decision concludes as follows:

> "Reviewing the uniform decisions of the courts and the conflicting decisions of the Patent Office, giving due weight to the reasons adduced for arriving at the various conclusions, and noting the authorities sustaining the various conclusions, whenever authorities have been cited, I am of the opinion that an interference can only be instituted for the purpose of determining the question of priority of invention between two or more parties *claiming* substantially the same patentable invention; that of necessity there must be allowed claims to all parties before an interference can be declared, and that only a patent and an application must claim in whole or in part the same invention, but also two applications must claim in whole or in part the same invention before an interference can be declared."

Present Rule 96 was adopted for the purpose of carrying into effect the practice approved by Hammond *vs.* Hart, and under this rule and decision it is necessary, in order that an interference may properly be declared, first, that the disclosure should be of the same structure, and, second, that the claims shall be substantially identical. This last condition is secured under the rule by suggestion of the broad claim covering the subject-matter common to the applications. There is no ground, however, for the suggestion of claims in the case where an application is limited to a specific structure different from that of the application in which the broad claims are made. This is clear not only from the definite language of the rule, in which it is said that in order to authorize such suggestion the claims of the application must "cover substantially the same subject-matter," and from Hammond *vs.* Hart, on which said rule is based, but it is also definitely required by Myers *vs.* Brown, 112 O. G., 2093, in which Commissioner Allen said:

> "Prior to the promulgation of amended Rule 96, it had been the practice to suggest claims to an applicant who had merely disclosed the invention, either in his specification alone or in his drawing alone, or in both the specification and drawing, but had failed to file any claim at all based upon such disclosure. Experience has shown the desirability of discontinuing this practice, and Rule 96 was promulgated with that end in view."

To summarize:

An interference was declared between applications or between a patent and an application under the practice as established by the decisions hereinbefore referred to, as follows:

Under *Ex parte* Upton:

1. Between claims of the same scope.
2. Between a broad or dominating claim and a specific claim, whether or not the claims were based on the same structure.

Under Reed *vs.* Landman and Kinyon *vs.* Carter:

1. Between claims of the same scope.
2. Between a broad or dominating claim of one application and a specific claim of another application, whether or not the claims were based on the same structure.
3. Between a broad or dominating claim of an application and a specific claim of a patent only when based on the same structure.

Under Hammond *vs.* Hart and present Rule 96:

Between claims of the same scope only.

It is no simple matter to formulate a rule for the declaration of interferences which will observe both the rule that pending applications are to be preserved in secrecy, and the one that interfering applications should claim the same invention. Ex parte Upton, Reed *vs.* Landman and Kinyon *vs.* Carter violated the second of these rules. Present Rule 96 violates neither. The trouble with Rule 96, however, is that, under penalty of an implied disclaimer of the invention if he fails to do so, an applicant is compelled to adopt a suggested claim based on a structure which he is not permitted to see, and which claim, therefore, he often can not understand.

In the event that an applicant does not understand a suggested claim, or its patentability over the prior art, he should adopt it, although under protest, the question of the patentability of the claim being reserved for determination subsequently on a motion for dissolution (*Ex parte* Zamboni, 20 Gour., 22-14).

There are several classes of cases in which claims may be suggested under Rule 96.

> 1. In pending applications where claims are made in both applications based on identically the same structure, *i. e.*, where the claims in each application will read exactly on the disclosure of the other.
> 2. In pending applications where one application contains a claim broad enough to read on the disclosure of the other while the claims in the second application contain immaterial limitations not found in the first.
> 3. In pending applications where the claims in each application will read on the other except for immaterial limitations contained in the claims of each application.
> 4. In a pending application when a claim is made in a patent broad enough to read on the disclosure of the application and the claims in the application also read on the disclosure of the patent.
> 5. In a pending application when a claim is made in a patent broad enough to read on the disclosure of the application and the claims of the application will read on the patent except for immaterial limitations.

6. In a pending application when the claims therein will read on a patent and the claims of the patent will read on the disclosure of the application except for immaterial limitations.

7. In a pending application when the claims of a patent and those of the application are such that the claims of each case will read on the other except for immaterial limitations.

The practice as to the first class of cases is clear and is directly covered by the rule. The broad claims of each application should be suggested for adoption in the other application.

In the second class of cases the rule also applies, since because the limitations are immaterial the claims of the two applications cover *substantially* the same subject-matter. The broad claims should be suggested in the application having the limited claims.

In the third class of cases neither party makes a claim which can form the issue of an interference, but it is apparent that the claims in both cases should not be allowed, since neither device is patentable over the other. The examiner, therefore, should suggest a claim to each party which will cover the invention common to both, omitting immaterial limitations. Such a practice is authorized by *Ex parte* Thompson, 98 O. G., 227, in which the Commissioner said:

> "Rule 96 permits the examiner to suggest to one party an allowable claim made by another, so as to bring about a proper interference, when they are both claiming the same thing in different ways, but it does not in terms permit the suggestions to both parties of a claim not made by either. The suggestion of such a claim, however, in a case like the present to cover the real invention common to the two cases clearly comes within the spirit of the rule. The purpose of the rule and the recent practice of the office are not to avoid interferences between applications because of some differences in the form of the claims, but merely by suggestions to bring the parties together upon an issue which shall be as nearly as possible the

> same as the claims of the parties, so as to reduce to a minimum the chances for motions and controversies during the progress of the interference based upon differences in the claims. There is nothing in the rule which prohibits the suggestion of a claim to constitute the issue in a case of this kind, and the suggestion would be in accordance with the general purpose of the Rule."

In the fourth and fifth classes, the broad claim of the patent should be suggested to the applicant and a time limit set within which to make such claim the same as in the case of pending applications. This practice is authorized by *Ex parte* Card & Card, 112 O. G., 499, in which the Commissioner said:

> "It must be held as a matter of procedure that the examiner was right in suggesting the claims of the patentee to these applicants and in his statement that if they failed to make them certain of the claims which they now make will be rejected. An applicant can not be permitted to avoid an interference with a patentee by carefully avoiding the words of his claims when the real invention is the same. When he claims substantially the same thing he can secure his patent only by proving priority of the invention in the regular way.
>
> . . . . . .
>
> "The petitioners make the additional point that even if it was proper to suggest the patentee's claims to them, it was not proper to fix a time limit within which they should make them. They say it might be proper to fix a time limit if the other party was an applicant; but it is not proper where the other party is a patentee. It seems perfectly clear that if these applicants are to have the option of either making the claims of the patent and contesting an interference or of having their present claims rejected *ex parte* it is necessary to fix a time limit within which they shall choose. There seems to be no reason why they should not make the claims of the patentee

> within a reasonable time if they intend to make them, and it is no injustice to hold them estopped after a time specified. In regard to interferences it is a matter of practical necessity and has always been considered proper to fix time limits, because of the interests of the opposing party. No good reason is seen for departing from that practice."

The sixth and seventh classes of cases are the only ones in which an interference may be declared including a claim which is not in the exact terms of the issue. This for the reason that the only claim or claims to the common subject-matter in the patent contain immaterial limitations not found in the application and because the patent is not subject to amendment like an application. There can be no question, however, that an interference should be declared, since the invention is substantially the same notwithstanding the immaterial limitations. As was said in *Ex parte* Thompson, *supra:*

> "It is not believed that the decisions cited and others of the same character were intended to mean that there is in law no interference in fact in a case of this kind, where the real invention claimed is the same in both cases, merely because the claims differ in the statement of the specific form of one of the elements of the combination. If those specific elements are the mechanical equivalents of each other, there is an interference under the well-settled principles of law. Winans *vs.* Denmead, 15 How., 330; Rodebaugh *vs.* Jackson, C. D., 1889, 435; Reece Button-Hole Co. *vs.* Globe Co., C. D., 1894, 360. Each party's device would infringe the other's claim under the doctrine of mechanical equivalents, and under such circumstances it can scarcely be said that there is no conflict."

The patentee's claim with the immaterial limitations omitted would form the issue of the interference and should be suggested to the applicant.

In some instances there should be a liberal application of the rule in regard to the suggestion of claims, as, for instance, where an applicant is prosecuting his own application, or where by amendment in view of a rejection an applicant cancels a broad claim substantially the same as one subsequently allowed in another application. When an applicant, however, is represented by a competent attorney, and it is clear that at no time during the pendency of the application was there any intention to cover anything but the applicant's specific structure, under present Rule 96, and the decisions bearing thereon, especially Hamond *vs.* Hart, on which said rule was based, there is no warrant for the suggestion of a broad claim made in another application.

RULE 124.

Rule 124 in the Revised Edition of the Rules of Practice of July 1, 1891, reads as follows:

> "Appeal may be taken directly to the Commissioner from decisions of the primary examiner on all motions except the following: (1) on motions to dissolve which deny the patentability of applicant's claim; (2) on motion to dissolve which deny the right of an applicant to make the claim; (3) on motions involving the merits of the invention. Decisions on these motions, when appealable, go to the Examiners-in-Chief; and upon such appeals, the party only whose claim is affected should have the right to appear and be heard.
>
> "From a decision of the Primary Examiner affirming the patentability of the claim or the applicant's right to make the same, no appeal can be taken."

It will be observed that under this rule the appeal from the Examiner's decision upon a motion to dissolve was heard *ex parte*. In the later editions the rule was amended to require that the appeal be heard *inter partes*. In the case of Newcomb *vs.* Thomson, 122 O. G., 3012, and 122 O. G., 3013, an interference was declared between a patent to Newcomb and an application of Thomson. A motion was brought by Newcomb to dissolve the interference on several grounds, and this motion was granted by the Primary Examiner. Attempt was made by Thomson to avoid the *inter partes* hearing required on appeal from the Examiner's decision in this manner: Appeal was taken from this motion to the Examiners-in-Chief, but was subsequently withdrawn and the interference dissolved. The Thomson application was then taken up for *ex parte* consideration, and the claims which had been involved in the issue were twice rejected on the ground stated in the decision granting the motion to dissolve. Thereupon Thomson took an appeal, *ex parte*, to the Examiners-in-Chief, who reversed the decision of the Primary Examiner. The interference was then reinstated, and time set for taking testimony. Motion was then brought by Newcomb to vacate the official action reinstating the interference, and by the appeal from the denial of this motion the case came before the Commissioner. In order to prevent this manner of avoiding an *inter partes* appeal, and also to avoid an appeal *inter partes* on the motion to dissolve and an appeal *ex parte* on the rejection of the claims after dissolution of the interference, the Commissioner stated:

> "It was my intention in the decision, to which this is a supplement, to institute a practice by which parties must appeal *inter partes* and in a reasonable time where there has been a holding upon motion for dissolution against the merits of their cases if they would appeal at all, and it was also my intention that the Examiner should take such action subsequent to his decision upon the motion as will put the cases in condition for the statutory appeal so that appeal might be continued directly to the court of appeals without the necessity of a second course of appeals through the Patent Office."

In order to carry this practice into effect, Rule 124 was later amended to read as follows:

> "Where, on motion for dissolution, the primary examiner renders an adverse decision upon the merits of a party's case, as when he holds that the issue is not patentable or that a party has no

> right to make a claim or that the counts of the issue have different meanings in the cases of different parties, he shall at once reject such claims as may be affected and shall set a time for reconsideration; after reconsideration, if he adheres to his original conclusion, he will make the previous rejection final and fix a limit of appeal. The appeal must go to the Examiners-in-Chief in the first instance and will be heard *inter partes*. If the appeal is not taken within the time fixed, it will not be entertained except by permission of the Commissioner.
>
> "No appeal will be permitted from a decision rendered upon motion for dissolution affirming the patentability of a claim or the applicant's right to make the same or the identity of meaning of counts in the cases of different parties."
>
> "Appeals may be taken directly to the Commissioner, except in the cases provided for in the preceding portions of this rule, from decisions on such motions as, in his judgment, should be appealable."

It is to be especially noted that the change in practice indicated in Newcomb *vs.* Thomson and in Rule 124 was necessitated, as stated in said decision, by the refusal of the court to receive appeals on motions. Following this decision a petition was filed for a writ of mandamus against the Commissioner of Patents directing him to vacate and set aside the proceedings in the Patent Office just referred to (Newcomb Motor Co. *vs.* Commissioner of Patents, 130 O. G., 302.) This petition being dismissed, appeal was taken to the Court of Appeals of the District of Columbia, (133 O. G., 1680), and after a full discussion of the case the court decided that when the appeal from the decision of the Primary Examiner was abandoned his decision became final and binding upon the parties, or in other words, that no subsequent *ex parte* action could be taken. Attention is also called to Cosper *vs.* Gold and Gold, 168 O. G., 787, in which the Court of Appeals of the District of Columbia held that where the Commissioner of Patents affirms a decision dissolving an interference on the ground that one of the parties thereto has no right to make the claims, the Commissioner has jurisdiction to award priority to the other party, since the question of the right to make the claims is ancillary to that of priority.

These decisions avoid the necessity of rejecting the claims at the time that the adverse decision is rendered on the motion for dissolution, since if the appeal from the decision of the Primary Examiner is abandoned his decision becomes final and binding upon the parties under the decision of the Court of Appeals of the District of Columbia; and if appeal is taken up to the Commissioner and his opinion is adverse to the right of an applicant to make the claims, he can award priority to the other party, from which decision appeal can be taken to the court.

Accordingly, the first paragraph of Rule 124 was superseded by the first paragraph of present Rule 124, which reads as follows:

> "Where, on motion for dissolution, the Primary Examiner renders an adverse decision upon the merits of a party's case, as when he holds that the issue is not patentable or that a party has no right to make a claim, or that the counts of the issue have different meaning in the cases of different parties, he shall fix a limit of appeal not less than twenty days from the date of his decision. Appeal lies to the Examiners-in-Chief in the first instance and will be heard *inter partes*. If the appeal is not taken within the time fixed, it will not be entertained except by permission of the Commissioner."

January 7, 1915.

112

26

Claims for Aggregations of Elements

by

W.D. Groesbeck,
Principal Examiner, Division 23
U.S. Patent Office

Jan. 14, 1915.

Journal of the Patent Office Society

Vol. 5 No. 5 Page 121

Paper No. 26

CLAIMS FOR AGGREGATIONS OF ELEMENTS.

26

Most, if not all, of the previous papers have been submitted quite impersonally on well settled subjects. Any opinion I may express in this is advanced merely as my own, and with the knowledge that others may, and probably do, disagree with some of my conclusions; and my hope is that the paper will lead to a full discussion of all phases of the questions.

In the sense of the term common in the practice of the Patent Office, an aggregation is a collocation or an assembly of mechanical elements in which assembly each element performs its own expected function and no more.

Negatively defined, an aggregation is what a combination is not. The late Commissioner Butterworth defined a combination as "a coordination of individual functions so as to constitute a common function. Coordination necessarily implies some modification of the individual function of each part as it existed prior to the combination". If I may presume, I would modify his definition to this extent, if it is to be applied to apparatus claims. A combination is a joinder of elements having individual functions in such a manner as to merge these individual functions into a unitary function. Otherwise, the definition applies only to method claims. Negatively, then, an aggregation is a joinder of elements in which there is no such modification of the individual functions as will produce a common function.

As an example of a good combination, and as a basis for illustration of other points, I submit the following: In a time piece, in combination, a source of power, a shaft driven therefrom, an escapement wheele on said shaft, an anchor pivotally mounted to engage said escapement wheel, and a pendulum mounted in operative engagement with said anchor.

Of course, the combination is almost as old as the art of horology, but it is still, as it always has been, a good combination in a patentable sense. It long ago ceased to be patentable under the statute, because it long ago ceased to be novel; but there is still that coordination of individual functions of the weight or spring, the wheel-teeth and anchor, and of the pendulum, which produces the common function of sustained synchronism that makes the apparatus chronomentrically valuable. The motor, through the excapement, maintains the pendulum in oscillation and these oscillations of the pendulum restrain the motor, likewise through the escapement, and accurately measure duration throughout a considerable period, without attention or renewal of the potential energy of the motor.

As an example of a claim for an unquestionable aggregation, let us consider the following:-

> "A package or case which, when made with distributing holes and filled, is cemented by the wax or wafer, as set forth." (Sawyer v. Bixby, et al., 1 O.G., 165.)

> "The distinction between a combination and an aggregation lies in the presence or absence of mutuality of action." (Am. Choc. Machy. Co. v. Helmstetter, 142 F.R., 979.)

The main statutory prerequisites to the patentability of a claim are found in Sec. 4886, R.S., which need not be quoted. Not only must the art, machine, manufacture or composition of matter be new and useful; but it must have been invented or discovered. Discovery usually has to do with arts or compositions of matter, invention, with machines or articles of manufacture. As has already been stated in prior papers, no court has yet attempted to say, unequivocally, what invention is; but there are scores of particular instances where they have told us what it is not.

There is no mention of aggregations in the statutes, but Sec. 4888 says that the inventor "shall particularly point out and distinctly claim the - - - combination" which he deems his invention.

What statutory basis, then, has a rejection on the ground that a claim is for an aggregation of elements? It is solely that of lack of invention. In other words, one who has merely juxtaposed a plurality of elements which thereafter perform only the identical functions they performed before the assembling, has not displayed, and did not need to display, any invention.

Decisions supporting this statement may be found by scores, and it would be but a waste of time to cite any considerable number of them; but it may be of interest to trace briefly some of the earlier ones in point of time. One of the first to state the principle from a common sense viewpoint, irrespective of any statutory considerations is the English case Sanders v. Acton, 1 Am. and Eng. Pat. Cases, 469 (1832). The patent before the court was one for improvements in making buttons, and the specification states that the improvement consisted in the substitution of a flexible material for metal shanks. Neither the construction of the button-body nor the application of a flexible shank was new; but the two were joined by a novel form of collet which collet, however, was not claimed. Three justices wrote separate but concurring decisions, best expressed, perhaps, by Justice Littledale as follows:-

> "Then it comes to this, that neither of them are new inventions, nor is the manner of putting them together new. It seems to me that putting the two together and making it an entire button, - - - does not constitute such a new invention as to be the subject of a patent."

The patent was declared void. The decision, of course, does not state in so many words that the button-body and the flexible shank each perform only their separate functions, but the inference that this view was in the mind of each of the justices is, I think, entirely warranted.

The earliest U.S. decision I have found, bearing on the subject of claims for aggregations is Ex parte Whitney, MS. Dec. Vol. 1, p. 23; July 1853. Early as it was, no subsequent decision, even of the Supreme Court, has stated the ground of rejection more clearly. In it, Commissioner Charles Mason said:

> "I fully assent to the proposition that a combination of old devices is patentable where a new and useful result is thereby attained, but in such cases something more than the mere assembling together of the several devices and placing them in juxtaposition is requisite. - - -
>
> "It seems to me that the different devices which are here claimed to be combined act wholly independent of each other, and that neither is dependent on any of the others for its utility. If, therefore, there is any meritorious invention, it is for the devices themselves separately and not for a combination. The utility of all is only the aggregate of the separate utility of each without receiving an augmentation or modification from the fact of combination. If this be true, there is no doubt of the propriety of refusing a patent."

(The invention was a revolving firearm, and no claim was quoted.)

In discussing the aggregation claim quoted above from the case of Sawyer v. Bixby, Judge Woodruff said:-

> "Pepper boxes, etc., are not new and are not claimed to be new. The closing of packages of various forms - - - by - - - paper made to attach itself by the use of - - - adhesive material, is no more new than the other. - - - In combination there is no other effect. - - - The employment of these instrumentalities in putting up packages for transportation is, therefore, *the exercise of judgment in selecting, not of invention or devising or combining.*"

These decisions, each published more than forty years ago, set forth as well as could a score of citations, the statutory ground for rejecting claims for aggregations of elements. Hailes v. VanWormer 20 Wallace, 353; Reckendorfer v. Faber, 92 U.S., 357; Pickering v. McCullach, 104 U.S.,318; Thatcher Heating Co. v. Burtis, 121 U.S., 293; Krell Auto Piano Co. of Am. v. Story et al., 207 F.R., 951; are decisions more recent and from higher authority, and therefore more frequently cited; but they add nothing of clearness of statement or positiveness of judicial conviction to the earliest decisions cited above.

There is, however, a class of claims often rejected as aggregations which are, in my opinion, not such and not properly so rejected. Such claims were first discussed, so far as I have had time to trace, in Ex parte Griffith, 85).F. 936. In this case, Ex Assistant Commissioner Greeley, after discussing claims which were undoubted aggregations, continued:

> "A party may invent an improvement on a certain element of an old combination without in any manner changing that combination itself, and in such case he is not entitled to a claim as the inventor of the combination, although it includes the thing which he really has invented. Mere double use of his invention does not give him a right to the combination in which he places it."

This "Griffith Doctrine", if I may so term it, has been rather firmly established by subsequent decisions, such as In re McNeil, 100 O.G.,2178; In re Hawley, 121, O.G.,691; Ex parte Potter, 82 MS. D., 46 (published in part in 17 Gourick); In re Ratican, 162 O.G.,540, and Ex parte Mumford, 206 O.G. 878.

Now it is clear enough from Ex parte Griffith cited, that the ground of rejection is not lack of invention. It was conceded that invention may appear in the production of an improved element. The ground of rejection of a claim for a combination embodying this novel element was that of lack of novelty of the combination. This is perhaps more clearly stated in In re McNeil, cited.

There is a paragraph in Ex parte Potter, cited which, unless considered as a whole, may appear to support the rejection of this type of claim as an aggregation. It is this:

> "Specific features of an element should not be included in cliams to combinations of elements where the specific features do not themselves cooperate with the other elements and thus modify and enter into the combination.---- Where limitations of combination claims to specific features of an element of the combination seems to be necessary in order to distinguish the supposed invention from prior combinations although the specific features do not cooperate with the other elements the fact is that no new combination has been invented. The novel invention, if there is one, resides in the element itself."

The first sentence of this paragraph seems to imply that unless the elements specifically claimed do not make a novel combination, they do not make any combination; in other words, that the assembly is a mere aggregation. This implication, however, is negatived by the last sentence. That is, no new and, therefore, no patentable combination is formed. The ground of rejection is clearly that of lack of novelty in the combination as a unit and not lack of

invention in a collocation of elements which never did and never could cooperate to effect a common function.

So it will be seen that whether a party merely substitutes one ole element for another old element in an old combination or whether he substitutes an entirely new and patentable element for an old element in an old combination, he has not produced that novel and patentable unit or entity, a new combination, unless the substituted element, in cooperation with the remaining old elements, brings about some new common function, - one not possessed by the combination before the introduction of the new element.

I believe the best way to express the rejection of such a claim is to reject it as an unpatentable combination, because the combination is no longer novel, or to reject it as an old use of applicant's novel element, which element should be claimed *per se*, as a manufacture, if the prior art warrants it.

Thus, the question of aggregation and the question of novelty are entirely separate ones. It is conceivable that an inventor might actually produce a half-dozen entirely novel and patentable manufactures and still be properly denied a claim for all six, if the claim covered the six merely so juxtaposed as to be convenient for successive use, or without being able to perform any common function contributed to by each. If there is no capability of cooperation between the elements assembled, it does not matter in the least how novel they may be, considered as elements, any more than it matters, in a combination, how old they may be individually, if they cooperate perfectly to perform a common function, and thus form a unitary and patentable entity. (Krell Autopiano Co. v. Story & Clark, *ubi supra*; Electric Accumulator v. Julien Electric Co., 38 F.R.,117).

Nor is it in the least necessary, in rejecting a bald aggregation claim, to cite references

showing the elements themselves to be old; although it is much more satisfactory to the applicant, usually, to be shown the old elements. To quote again from Ex parte Potter:

> "Where the applicant contended in effect that rejection on the ground of aggregation can not properly be made except when supported by references showing the devices which are alleged not to cooperate; Held, that the contention is error; that the question of aggregation is one of invention and not of novelty."

It is, however, exceedingly difficult in many instances to convince applicants that they should claim the novel element rather than the old combination, or that they are sufficiently protected, in fact better protected, by a claim to the element than by a claim to a combination including it; for a patentee "it is entitled to all the benefits of his improvement - - - as fully as if he had foreseen all the uses to which it would be applied," (Ex parte Day, C.D. 1869, 4), unless, perhaps, the use is in an art so remote as to itself involve invention in the adaptation. (Potts vs. Creager, C. D. 1895, 143). On the other hand, if the inventor patent the combination, his claims therefor are void for want of novelty, although he may believe that he invented a new combination as well as a new element. (Langan v. Warren Axe & Tool Co., 166 O.G., 986). In fact, he may have actually invented the entire combination; may never have seen or known of such a combination prior to his disclosure of it; but that does not make it any the less unpatentable for want of novelty. He is in no worse position than another inventor who has expended time, labor and money to reinvent something which proves to be old in toto. It is in all respects, then preferable for him to relinquish all that is old and to claim in the broadest manner possible that which proves to be actually novel.

There is one more point to be considered.
is held by some that although both a combina-
on and many of the elements thereof are novel,
ecific features of the elements should not be
cluded in claims to such combinations where the
ecific features do not themselves cooperate
th the other elements to modify the combination.
express this more briefly, they hold that there
y be a combination broadly where there is no
mbination specifically; which is equivalent to
ying that a collocation of elements may be a
od and patentable combination when claimed
oadly, and an aggregation when claimed speci-
cally. This seems to me to run counter not only
the statutory ground of rejection of an aggre-
tion, but to a number of authorities and deci-
ons, as well. For instance, in conceiving and
bodying in practical form a new and useful in-
ntion, an inventor will devise, modify and
apt elements to fit them into a combination,
so new, which shall disclose "the bwst mode in
ich he has contemplated applying the principle"
derlying his invention, as required by the
atute, (Section 4888). To hold that in claim-
g his new combination he may not also simultan-
usly claim his new elements as specifically as
chooses is, first of all, to deny him the right
"particularly point out and distinctly claim",
required by the same section. Furthermore,
elements broadly claimed, cooperate in some
y to effect a common function; specifically
aimed, they still effect a common function, the
me one, and a novel one; and, lastly, if it
quired invention to conceive and produce the broad
mbination, it required so much the more invention
produce the concrete, specific assembly which
odies "the best mode - - - of applying the
inciple" utilized.

To illustrate, let us revert to the claim for
time-piece, suggested at the beginning of the
er; and let us suppose that the infentor had
st experimented with pendulums and had devised
ercury pendulum which was practically synchronous
all temperatures. Let us also suppose that he

was the first to devise a spiral-spring motor. Is it logical, after having allowed him the broader claim quoted to deny him one like the following: In a time-piece, in combination, a spiral spring, a shaft driven therefrom, an escapement wheel on said shaft, an anchor pivotally mounted to engage said escapement wheel, and a pendulum having a bob comprising a receptacle containing an elongated column of mercury, said pendulum being mounted in operative engagement with said anchor? I think not, for the latter claim sets forth a novel combination as much as the other, and one which it required invention to produce. In short, it meets all the prerequisites of Sec. 4886 quite as well as the broader claim. The inventor says, in effect;- Here is the actual physical embodiment of my conception in the best mode in which I have contemplated applying it; having complied fully with the statute, you can not deny my right to claim it as specifically as I choose.

Walker says:

> "It is a proper practice to make a generic claim and also a specific claim, in an application for a patent on a generic invention, even where only one species is described in the specification. In such a case, if the inventor's understanding that his invention is primary turns out to be true, both claims will be valid. But, if some invention is afterward discovered in the prior art, which relegates the patent to a secondary place, the specific claim may stand and be valid, though the generic claim is too broad to be maintained." (Walker on Patents, 4th Ed., Sec. 116.)

Ex parte Eagle, C.D. 1870, 137, the Office standby on requirements of division, says:

> "An applicant may fairly describe several species of a genus and may make any claim that is generic in its character and includes them all. In addition to this, - - - he may select one of the embodiments of his invention for specific claims." (See also Ex parte Ewart, C.W. 1880, 78 and Ex parte Cook, C. D. 1890, 81.)

Neither Walker nor any of the decisions just cited puts any limit upon the inventor. He may claim his preferred embodiment just as specifically as he chooses, provided always that he does not file what the courts have styled "a multitude of fuliginous and attenuated claims", which do not differ patentably from each other.

As recently as 1913, the Circuit court of Appeals for the 6th Circuit outlined this right to specific claims to the following extent:

> "Each claim should be directed at some function, step, or advantage to give it individuality; it should have a characterizing thought or point by which it can be identified; and, if the court which is to construe the claim can find this dominant thought, its task will be simplified. We may make this concrete by supposing that elements A, B, and C. are each old in several specific forms, but are operative only in the combination A,B,C. An inventor perfects new and useful specific forms of each, a,b,c. The most desirable form of his invention is the combination a, b, c, and this the inventor considers his perfect work; but he may use and is entitled to monopolize one or two of the old forms in combination with two or one of his new forms. He may have, and the proper drafting of his patent will secure for him a series of combination claims like this (capitals representing generic, lower case, his new specific forms);

(1) a, b, c; (2) a, b, C; (3) a, B, C;
(4) A, b, c; (5) A, B, c; (6) A, b, C."
(Scaife & Sons Co. v. Falls City Woolen Mills, 209 F.R., 210.)

In a still more recent decision, the Honorable First Assistant Commissioner held:

> "A claim for a machine for wax treating parts of boots and shoes including a wax applying wheel provided with 'a working face of combustible fabric' is not an aggregation because limited to a 'combustible' fabric, the claim otherwise setting up a good combination." (Ex parte Pease, 202 O.G., 631.)

Note the "otherwise" in this citation. The trend of Walker and all those decisions is that a claim for an assembly of elements which is a good combination when broadly stated does not become an aggregation (that is, does not cease to embody invention), even when it is claimed as specifically as possible. With this view, it appears to me that the statute and the entire line of decisions are harmonious.

SUMMARY

An aggregation is an assembly of elements which are incapable of coacting to produce a common function and which assembly, therefore, exhibits no invention.

Some claims which are often rejected as aggregations are, in reality, for good combinations which are no longer novel. They may contain novel elements, but the combination, which is the entity considered by the statute, is no longer patentable. The novel element or elements should be made the subject-matter of the claims.

If a combination is new and patentable if claimed broadly, it does not become an aggregation by embodying specific limitations of the elements making up the combination.

W. D. Groesbeck

[illegible]

27

COMBINATION vs. AGGREGATION

A paper read January 14, 1915, before the Examining
Corps of the United States Patent Office

by

LOUIS W. MAXSON,
Principal Examiner, Division Fourteen,
U. S. Patent Office.

WASHINGTON, D.C.
1915

Combination vs. Aggregation

By
LOUIS W. MAXSON,
Principal Examiner, Division Fourteen,
United States Patent Office.

The constitution of the United States provides that "Congress shall have power . . . to promote the Progress of Science and Useful Arts by securing for limited times to Authors and Inventors the exclusive right to their respective writings and discoveries."

R. S. 4886 states that a patent may be obtained by "any person who has invented or discovered any new and useful art, machine, manufacture, or composition of matter, etc."

It is therefore clear that Congress has limited the subject-matter of a patent to an invention, novelty and utility alone being insufficient to justify the grant.

Where a device is composed of but a single element, the question of patentability is simple, depending on whether the element is the result of invention or the product of mere mechanical skill; but, when two or more elements are grouped together, as in combined tools, machines, or the several steps of a process, a new question arises. Are the several elementary parts so related as to produce a legitimate combination and, if so, under what circumstances do they consitute a patentable invention?

The decisions of the Federal Courts, from the beginning of our patent system, have been remarkably uniform in respect to this matter, yet, judged by the nature of the patents granted, the practical distinction between patentable and unpatentable combinations or aggregations seems to be little understood by many. I therefore base the remarks which I shall make on a few of the decisions which I have found most useful in determining the many cases which have come before me.

These are:

> "To make a valid claim for a combination it is not necessary that the several elementary parts of the combination should act simultaneously. If those elementary parts are so arranged that the successive action of each contributes to produce some one practical result, which result, where attained, is the product of the simultaneous or successive action of all the elementary parts, viewed as one entire whole, a valid claim for thus combining those elementary parts may be made."
>
> Furbush et al. *vs.* Cook et al., 10 Mo. L. R., 664, Curtis, 1857.
>
> "Although three elements of a patented combination may all be old and two of them have been combined before, yet he who brings into the combination the third element, and thereby gets a practical advantage, makes a patentable invention."
>
> Ib.
>
> "Although a combination of old devices may be patentable when a new and useful result is produced, no one can, by combining several devices, each of which is old, thereby deprive others of the right to use them separately or the right to use them in new combinations, or the right to use some of them in combinations, omitting others."
>
> Hailes et al. *vs.* Van Wormer et al., 7 Blatchford, 443, Woodruff, 1870.
>
> "The mere addition of an old device, producing a specific result, to another device, producing its own result, in such wise that their combination produces those two same results, and no other, is not invention."
>
> Ib.

"Patents may be granted for combinations in which some of the parts are old and some are new; and whatever in the several parts is new may be separately secured to the inventor; and yet it may be true that only in the combination described or in some similar combination, the new part thus secured to the inventor is of any practical use whatever."

Wheeler, Jr., *vs.* Clipper Mowing and Reaping Co., 10 Blatch., 185, Woodruff, 1872.

"Under the statutes patentee is required to particularly specify what he claims to be new, and if he claims a combination of certain elements or parts, we can not declare that any one of these is immaterial. The patentee makes them all material by the restricted form of his claim."

Union Water Meter Co. *vs.* Desper, 101 U. S., 332, Sup. Ct., 1879.

"A mere aggregation of old things is not patentable, and, in the sense of the patent law, is not a combination. In a combination the elemental parts must be so united that they will dependently co-operate and produce some new and useful result."

Wood et al. *vs.* Packer, 57 Fed. Rep., 651, Nixon, 1883.

"A combination is patentable (1) if it produces new and useful results, though all the constituents of the combination were well known and in common use before the combination was made, provided the results are a product of the combination, and not a mere aggregation of several results, each the produce of one of the combined elements; (2) if it produces a different force, effect, or result in the combined forces or processes from that given by their separate parts and a new result is produced by their union; (3) if it either forms a new machine of distinct character or formation or produces a result which is not the mere aggregate of separate contributions, but is due to the joint and co-operating action of the elements; (4) when the several elements of which it is composed produce, by their joint action, either a new and useful result, or an old result in a cheaper or otherwise more advantageous way."

Niles Tool Works *vs.* Betts Machine Co., 27 Fed. Rep., 691, Wales, 1886.

"A patent for a combination can not be maintained where nothing is done except to bring well-known devices into juxtaposition, each working its own effect, and the aggregate producing no new and useful result."

Kerosene Lamp Heater Co. *vs.* Littell, 3 Banning and Arden, 312, Nixon, 1878.

"There is no patentable combination, properly so called, in an aggregation of devices which have no common purpose or effect, concurrent or successive."

Tower *vs.* Bemis & Call Hardware & Tool Co. et al., 19 Fed. Rep., 498, Lowell, 1884.

"A broad claim can not be sustained for merely putting together two old tools for convenience of manipulation in several and wholly distinct uses—the patent must be limited to some patentable improvement, either in the mode of combining the tools or in one or more of the tools themselves."

Ib.

"To combine the parts of two existing machines, leaving the parts in the new union to work as before does not constitute a patentable combination, but merely an aggregation."

Troy Laundry Machinery Co. et al. *vs.* Bunnell, 23 Blatch., 558, Wallace, 1886.

> "A patent for a combination is not invalid because all the parts are old. But merely assembling them together, or placing them in juxtaposition does not indicate invention. Some new or peculiar function produced by such a combination must be developed. Unless this follows, the new arrangement is the mere exhibition of mechanical skill."
>
> Scott Mfg. Co. *vs.* Sayre, 26 Fed. Rep., 153, Nixon, 1885.

> "The fact that an article is convenient and has commercial advantages does not render it patentable where it is made up of independent devices, each of which is unaffected by the presence or absence of the other."
>
> Ex parte Davenport, C. D., 1904, 110.

From these it is clear that the patentability of a group of elements does not depend on their individual novelty, but upon their unitedly producing a new and improved result, the product of their combined operation, not the mere sum of their several individual effects. This result may be produced by the simultaneous or sequential operation of the elements, each upon the other or their co-operation in groups. If this united participation in the result is not present, then ordinarily no patentable combination exists, but an unpatentable aggregation, an arrangement lacking invention since based alone on mechanical skill.

The patentability of claims which involve several elements can ordinarily be readily determined by applying these tests.

Let A, B, and C represent several grouped elements. If their relation is $A + B + C$, their function or result being merely additive or the sum of their individual results, they constitute an unpatentable combination, whether new or old.

If their relation is $A \times B \times C$, each modifying the other or co operating singly or by groups and all mutually tending to produce a unitary result, they form a legitimate combination and, if the result is new and useful, the device is patentable, but it does not follow that all legitimate combinations are patentable.

A × B × C is old in the art, and C^1, a modification or specific form of C, is substituted for that element.

If C^1 is an old and well-known equivalent for C, no new result is accomplished and the resultant combination is unpatentable.

If a new and improved result follows the substitution and this is due to the modifying influence of the substituted element on all the others, the combination is new and patentable.

If C^1 does not affect the functions of A and B, individually or in group, other than did C, adding only its own peculiar function to the result, the combination is not patentable over A × B × C, the broad combination being exhausted, and C^1 should be claimed by itself since in it alone does the invention lie. This is true whether C is new or old. It is not a new combination since the only modification of the result rests in the substitute element.

A × B × C being old, if C is omitted while the old result is maintained, a new and patentable combination results.

Richards *vs.* Chase Elevator Co., 73 O. G., 1710.

In special art tools it may be that each element accomplishes only its own result, but, if the several elements contribute by their operation to the production of a unitary improved result, unattainable in the absence of either, there is a legitimate combination. Such an instance is seen in the ordinary glass cutter, in which the scoring roll of the cutter combines with the breaking notch to produce the complete severance of the glass.

Lying close to, yet apart from this clearly defined field of combination and aggregation, is a twilight zone in which there appears to be no well settled practice either in the courts or Patent Office. This resides in that class of cases in which old elements are so positioned with respect to each other that, while each performs its own function, the ultimate effect of grouping the parts is the production of a better, more advantageous or cheaper result. Such cases are discussed in Burdett-Rountree Mfg. Co. *vs.* Standard Plunger Elevator Co., 196 Fed.

Rep., 43; Standard Plunger Elevator Co. *vs.* Burdett-Rountree Mfg. Co., 197 Fed. Rep., 743; and Krell Auto Grand Piano Co. of America *vs.* Story & Clark Co. et al., 207 Fed. Rep., 946, in the last of which it was held that a patent for a mechanism consisting of two or more elements is not necessarily invalid as an aggregation because there is no direct co-action between the elements, where such co-action comes to produce a unitary result through the mediation of the operative or the operating force, but without the court laying down any hard and fast rule of general application.

Perhaps a few concrete illustrations of this type of invention will in part clear the practice. It is old to form a flexible metal tube of small diameter and to form a web or braided cover about such tube by separate machines, also to feed tubes through their forming mechanism by drawing rolls. So positioning these devices as to have a pair of rolls for forming a small flexible walled tube, a means in direct alinement with the delivery outlet of the forming rolls to form a web or casing about the tube, and drawing rolls for feeding the product through the forming and casing mechanism, forms a patentable combination, as the direct line delivery insures the perfection of the tube at the point where the web is placed about it and the feed rolls maintain the direct alinement of the material while being worked upon. The parts work as before, but synchronism of operation is maintained by the tube as drawn through the machine and the perfected product is due to the consecutive operation of the several elementary machines without any deformation of the tube due to intermediate handling.

It is mere aggregation to place an oil can in the handle of a wrench so as to have a handy supply of lubricant in case a nut is rusted on its bolt. Change the position of the oiler, by recessing the inner face of the wrench jaw, fitting the oil can therein with its elastic wall projecting into the space between the jaws and place its jet orifice near the outside of the jaw face, and a new and advantageous result is produced. The first motion of the wrench handle forces the nut against the can, ejecting the oil upon the rusted parts, while continued motion in the same direction loosens the lubricated nut. This is a clear combination due to the exercise of invention in so arranging or constructing the parts, each old in itself, that an improved result is produced. Thatcher Heating Co. *vs.* Burtis, 121 U. S., 286, justifies the grant of a claim for such a device.

To place a can opener on the handle end of a bottle decapping tool is an aggregation, since each produces its own result and no more.

Change the position of the knife edge to the inner curve of the fulcrum arm of the decapper, where it is protected, by the overhang of the decapper claw and fulcrum point, while the cam shaped back of the fulcrum arm serves as a rolling fulcrum for the can opening blade, and we again have a clear case of patentable combination due to change of position.

In the Tower *vs.* Bemis et al., decision, above noted, it is stated that there is no patentable invention in broadly combining two forms of wrench in a single tool. So position them that their joint operation is due to a single element and a patentable combination may result. Class 81-77 is made up of just such cases.

The same result follows where an intermediate jaw is placed between the jaws of an ordinary pair of pliers, doubling the efficiency of the tool by its co-operation with each.

While in cases like the above legitimacy of the combination must be admitted, care must be exercised that this positioning is not too freely treated as a ground for allowing claims.

Though the Constitution gives to Congress power to pass enabling legislation, I find neither in the Revised Statutes, nor in the decisions of the Federal Courts any authority for granting patents for structures which possess convenient and commercial advantages, but are made up of independent parts each of which is unaffected by the presence or absence of the other. I refer to aggregated tools or other parts in so-called articles of manufacture. "The beneficiary must be an inventor and he must have made a discovery. The statute has always carried out this idea. . . . So it is not enough that a thing shall be new, in the sense that in the shape or form in which it is produced it shall not have been before known, and that it shall be useful, but it must under the Constitution and the statutes, amount to an invention or discovery."

Thompson et al. *vs.* Boisellier et al., 31 O. G., 377.

I will mention one more example, illustrating an extreme type, which yet has its advocates.

A ring having an inward extension on which is pivoted a screw-driver, adjacent lugs on the face of the ring with which the ends of the screw-driver may engage to hold the parts in fixed relation, when the screw-driver is not in use, and a twine cutter blade projecting from the exterior of the ring.

Herein is no community of operation, but rather a negation of results. The ring with its lugs protects the pocket of the carrier from being torn by the screw-driver blade, while the projecting blade of the twine cutter insures the opposite result. Graphically stated $+1-1=0$, and assuredly in such a case is neither invention nor utility. Each element may be patentable by itself, but where the result of their sequential use is the obliteration of any practical joint result, there can be no justification under the present law for the issue of a patent. For this reason I can find no justification for the theory that were the Reckendorfer *vs.* Faber (92 U. S., 347, Sup. Ct., 1875), case to be retried now, the Supreme Court would reverse its judgment, for there, as in the above illustration, we have as the only result of the alleged combination $+1-1=0$, means for making a mark, means for erasing the mark, conjointly producing nothing.

January 14, 1915.

[illegible]

28

Processes, as a Subject of Invention

A paper read January 21, 1915, before the Examining
Corps of the United States Patent Office

BY

W. L. REDROW,
Principal Examiner, Division Fifteen,
U. S. Patent Office.

WASHINGTON, D. C.
1915

Processes, as a Subject of Invention

By

W. L. REDROW,
Principal Examiner, Division Fifteen,
U. S. Patent Office.

The statutory provision making processes one of the subjects of patent protection is not as definite or clear as that relating to machines, composition of matter, and articles of manufacture. The word "art" was used in the statute, and its meaning, or rather its exact scope in this relation, has caused much doubt and confusion of court decisions during the history of patent litigation. Even as late as 1895, we find in the Supreme Court decision Risdon Iron and Locomotive Works *vs.* Medart *et al.*, 158 U. S., 68; 71 O. G., 751, ground for doubt on one phase of the question, that is, the question of the patentability of purely mechanical processes.

Also in former times, there was much doubt as to where to draw the limit in another direction, that is, between a proper process and a monopoly of the use, even for a particular purpose, of any one of the principles of nature, and likewise, between a proper process and a statement of general notion or idea of some result to be accomplished but without specific way or steps of doing it, claims for which are sometimes called functional.

Patentably, a process has been defined by the Supreme Court as a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing (Cochrane *vs.* Deener, 11 O. G., 687, 94 U. S., 780), and—a process is an act or mode of acting (Tilgman *vs.* Procter, 102 U. S., 707).

The second part of the first definition and the second one as a whole especially set forth the vital elements of a proper process, as being one or more acts, commonly called steps, which are performed. These steps are the actual positive things to be done by the operator in executing the process. They do not necessarily, and, in fact, in chemical processes seldom, if ever, represent all the numerous or secondary actions or reactions that take place as a result of the actual or primary steps performed. For instance, a claim for preparing a bleaching liquor might include only the single positive step of passing an electric current through an aqueous solution of sodium chloride. It would be entirely proper as a process claim though some half dozen chemical reactions would take place in the solution while the current passed. In chemical processes, it would be entirely impracticable to name as steps all that happens in the process as secondary actions.

In chemical processes the materials treated may be considered to enter into or patentably modify the steps. The process consisting of heating to 2,000° C. a mixture of calcium oxide and carbon would be a different process from that of heating to 2,000° C. a mixture of silicia and carbon; in one case, the result would be calcium carbide and in the other silicon carbide, two different products. And likewise, the step of mixing nitric acid and glycerine would constitute a very different process from that of mixing nitric acid and sodium hydroxide. These would constitute patentably different processes because a different chemical reaction results in each of the two cases which produce products widely different in their properties. This, however, is not considered to be true in the case of broadly mixing or otherwise treating inert materials. Thus, the step broadly of mixing gravel and tar to make a paving compound, while perhaps a proper process, is not patentably different from that of mixing granulated coal and tar to make fuel briquettes. Any patentability in the case of these latter examples would reside in the mixture and not in the mixing. This does not mean that in case some special result is derived from a particular way of mixing two or more ingredients even in non-chemical cases, there might not be patentability in the process.

On account of the indefinite scope of the word "art" in the statute, it has remained for the federal courts, the tribunals of the Patent Office, and text writers to lay out such bounds as we have for this subject of invention.

One question though it now seems elementary and only of historical interest, caused much controversy in the early history of patent litigation; viz., should a person when he had discovered that a natural fact or principle of nature was capable of use for some purpose be entitled to claim the exclusive use of that agency for that purpose, or should he be limited to some specific way or mode of applying it; that is, to some steps to be performed by which the fact or principle was utilized and embodied in a working process or by constructing a machine depending upon the fact. It was finally decided that neither the facts themselves, nor the use thereof, were subjects of patents, since to allow such patents would obstruct instead of promote the advance of the different arts, many of which depend upon these very principles of nature for their existence.

The terms "elemental force," "scientific fact," "principle of nature," and even "principle" have all been used synonymously in this relation to designate these various facts or principles of nature. Careful distinction must be made, however, where the term "principle" is used not to confuse it with its use in a more general sense in patent law, that is, where it is used to refer to the plan according to which a process or machine operates, a mode of action, otherwise denoted the principle of the process or machine. In this sense it might include any number of primary or elementary facts. Whichever of these terms, and perhaps of other similar ones, is used in this relation, that is, as being something different from a patentable process, it means any of the facts relative to the properties of matter or actions of the various forces of nature, including in its scope all of the manifestations by results of the various physical and chemical forces such as mere mechanical energy, heat, light, electricity, magnetism, chemical affinity, gravity, and the energy involved in the various forms of cathode, radium, and similar rays or emanations.

The subjects of physics and chemistry and combinations of the two are made up of, and have for an object, the classification of the many directly apparent properties of matter and characteristics of the above-named forces in order that theories and laws may be formulated leading to others not so apparent. All these facts relating to actions and reactions in the material world around us, are available as foundations for processes, but in themselves they are not subjects of patents. They are as building stones or structural units with which inventors may construct the purely artificial creations designated processes.

A process, then, may be said to be something artificial, while a principle or scientific fact is a thing of nature. For devising the former, a person may be given a patent; for discovering the latter, he may be given a doctor's degree or other reward, but there can be no patent for a mere principle or scientific fact.

The inventor may or may not be the discoverer of the chemical or physical facts or laws which he utilizes in devising his process. If the particular step or combination of steps which he employes in applying and utilizing the one or more facts be new, that is sufficient.

It would seem that the word "art" might be broad enough in scope to permit the granting of a patent for the exclusive use of one of these principles of nature for a particular purpose, that is, for the creation of a new art to the first discoverer thereof, as, for instance, the exclusive use of the electric current for writing intelligible characters at a distance, or transmitting sound or generating light, or for the exclusive use of high frequency electromagnetic waves for conveying intelligence, as in the wireless telegraph art, or for the exclusive use of the fact that hydrogen is lighter than air for the purpose of aerial navigation. These could properly be called new arts. This view was expressed in a very logical dissenting opinion in O'Riley *vs.* Morse. It was decided in that case, however, that the term art in the statute could not be allowed such broad scope, the court placing the reason therefor on the above-mentioned ground that to do so and thus close such large fields to invention would hinder rather than promote the advancement of the useful arts.

In the case of O'Riley *vs.* Morse, 15 How., 62, the Supreme Court announced the rule that the exclusive use of a principle of nature or scientific fact for a particular purpose broadly was not a proper subject of a patent, that the most that could be recognized by the patent laws was some specific process or apparatus embodying or depending upon the fact.

This case involved the patent to Morse on the electric telegraph. In connection with the question, it is of interest to note that the mechanism of the original telegraph was very complicated compared to one of today for merely sending a single message at a time. It was not recognized at that time that messages might be sent by the now familiar hand key and received by ear alone, although transmission of mere signals was known; and, therefore, Morse devised an automatic machine employing devices similar to type which had to be set up in a holder adapted to be moved past a contact for making and breaking the current according to requirements of spelling out the words of the message and likewise an automatic machine for moving a tape past a marker worked by an electromagnet at the receiving end.

One of Morse's claims was considered of such scope as to be for the use of an electric current for marking intelligible signs at any distance. It is claim 8 of Reissue No. 117, June 13, 1848, worded as follows:

> "Eight, I do not propose to limit myself to the specific machinery or parts of machinery described in the foregoing specification and claims; the essence of my invention being the use of the motive power of the electric or galvanic current, which I call "electro-magnetism" however developed for marking or printing intelligible characters, signs, or letters at any distances, being a new application of that power, of which I claim to be the first inventor or discoverer."

The court said as to this claim:

> "It is impossible to understand the extent of this claim. He claims the exclusive right to every improvement where the motive power is the electric or galvanic current, and the result is the marking or printing intelligible characters, signs, or letters at a distance."

"If this claim can be maintained, it matters not by what process or machinery the result is accomplished. For aught that we now know, some future inventor, in the onward march of science, may discover a mode of writing or printing at a distance by means of the electric and galvanic current, without using any part of the process or combination set forth in the plaintiff's specification. His invention may be less complicated—less liable to get out of order—less expensive in construction and in its operation. But yet, if it is covered by this patent, the inventor could not use it, nor the public have the benefit of it without the permission of this patentee."

"Nor is this all: while he shuts the door against inventions of other persons, the patentee would be able to avail himself of new discoveries in the properties and powers of electro-magnetism which scientific men might bring to light. For he says he does not confine his claims to the machinery or parts of machinery which he specifies, but claims for himself a monopoly in its use however developed for the purpose of printing at a distance. New discoveries in physical science may enable him to combine with it new agents and new elements, and in that manner attain the object in a manner superior to the present process, and altogether different from it. If he can secure the exclusive use by his present patent, he may vary it with every new discovery and development of the science, and need place no description of the new manner, process, or machinery upon the records of the Patent Office. And when his patent expires, the public must apply to him to learn what it is. In fine, he claims a manner and process which he has not described, and indeed had not invented, and, therefore, could not describe when he obtained his patent. The court is of opinion that the claim is too broad and not warranted by law."

"No one, we suppose, will maintain that Fulton could have taken out a patent for his invention of propelling vessels by steam, describing the process and machinery he used, and claimed under it the exclusive right to the use of the motive power of steam, however developed, for the purpose of propelling vessels. It can hardly be supposed that under such a patent he could have prevented the use of the improved machinery which science has since introduced, although the motive power is steam and the result is the propulsion of vessels."

"Neither could the man who first discovered that steam might, by a proper arrangement of machinery, be used as a motive power to grind corn or spin cotton, claim the right to the exclusive use of steam as a motive power for the purpose of producing such effects."

"Again, the use of steam as a motive power in printing presses is comparatively a modern discovery. Was the first inventor of a machine or process of this kind entitled to a patent, giving him the exclusive right to use steam as a motive power, however developed, for the purpose of making or printing intelligible characters? Could he have prevented the use of any other press subsequently invented where steam was used? Yet, so far as patentable rights are concerned, both improvements must stand on the same principles. Both use a known motive power to print intelligible marks or letters; and it can make no difference in their legal rights under the patent laws, whether the printing is done near at hand or at a distance. Both depend for success, not merely upon the motive power, but upon the machinery with which it is combined. And it has never, we believe, been supposed by any one that the first inventor of a steam printing press was entitled to the exclusive use of steam as a motive power, however developed, for marking or printing intelligible characters."

"Indeed, the acts of the patentee himself are inconsistent with the claim in his behalf for in 1846 he took out a patent for his new improvement of local circuits by means of which intelli-

> gence could be printed at intermediate places along the main line of the telegraph and he obtained a reissued patent for this invention in 1848. Yet in this new invention the electric or galvanic current was the motive power and writing at a distance the effect. The power was undoubtedly developed by new machinery and new combinations. But if his eighth claim could be sustained, this improvement would be embraced in his first patent. And if it was so embraced, his patent for the local circuits would be illegal and void; for he could not take out a subsequent patent for a portion of his first invention, and thereby extend his monopoly beyond the period limited by law."

Attorneys for Morse had cited several cases alleged to support their contention that a claim of this scope should be sustained. Among these cases was a British case, Neilson *et al. vs.* Harford *et al.*, decided by the English Court of Exchequer. Neilson was the inventor of the process of supplying hot air blast to furnaces where before cold air had been used. He accomplished this by interposing between the blowing device and the furnace a receptacle or passageway through which the air passed on its way to the furnace and which could be heated by heat applied externally to the walls. This was found to be a very valuable way of operating furnaces of various sorts because the hot air resulted in the production of a much higher temperature in the furnace and reduced the ore much faster.

The Court of Exchequer had said that it had had much doubt whether the Neilson patent was not for the principle that heated air would produce better combustion than cold and intimating that, if so, the patent would be void, but stated that after much consideration it had concluded that it was not for a principle but for an apparatus embodying a principle. They said:

> "After full consideration, we think that the plaintiff does not merely claim a principle, but a machine embodying a principle and a very valuable one. We think the case must be con-

> sidered as if the principle being well known, the plaintiff had first invented a mode of applying it by a mechanical apparatus to furnaces and his invention then consists in this by interposing a receptacle for heated air between the blowing apparatus and the furnace. In this receptacle he directs the air to be heated by the application of heat externally to the receptacle; and thus he accomplishes the object of applying the blast which was before cold air in a heated state to the furnace."

The Supreme Court said as to this citation that instead of supporting the contention that a. principle might be claimed, it rather denied it, since the Court of Exchequer specifically said that Neilson's invention would be considered not for a principle but for a machine embodying a principle; a mode of applying a known principle to furnaces by interposing a receptacle for heating air between the blowing apparatus and the furnace and further making it clear that if the patent had been construed as one for the exclusive use of a principle or fundamental law of nature, that is, the exclusive use of the fact that hot air resulted in higher temperatures than cold air, that the patent would not have been sustained. The court, therefore, denied that this citation in any way afforded any ground for sustaining such style of claim, citing with approval the case of Le Roy *et al. vs.* Tatham, 14 Howard, 156.

This case of Le Roy *et al. vs.* Tatham had been decided by the Supreme Court the year previous, that is, 1852, and is interesting, not so much on account of any direct decision by the court on the question of claiming a newly discovered natural phenomenon or principle, but on account of the variation of opinion and discussion of the question, both as between the lower court, which, in this case, was the Circuit Court of the Southern District of New York, and the Supreme Court, and between the members of the Supreme Court itself, since three of the members dissented.

The facts involved in this case were that John and Charles Hanson, the inventors and assignors to Tatham, had discovered an unknown property of certain soft metals, such as lead, that if a solidified or unmolten body of it be divided under non-oxidizing conditions and at certain temperature, and the parts be pressed together, they will reunite or weld perfectly to form an integral piece. This property of the metal was very useful in making lead pipe, since all that was necessary was a cylinder with a plunger at one end, and an opening with a mandrel or core, centered therein at the other. The core, however, had to be supported rigidly enough to avoid being moved out of center with respect to the opening. It was, therefore, supported by a bridge piece extending across the inner end of the die or outlet opening and this required that the lead in being extruded should divide to pass around the obstructing bridge member, and reunite to form the annular wall of the tube. This was where the newly discovered property of the lead came into use, since before that time the mandrel or core had as was thought necessary been supported from the plunger at the other end of the cylinder, or even beyond the plunger and extended through a hole in the plunger and thence on through the die opening, thereby not being rigid or stable enough laterally in the die to make uniform or concentrically walled tubing. The invention was of great practical value; the extruded lead being in better physical state than cast lead and the mandrel, being very rigidly and accurately held directly in the die by the bridge piece, made the pipe of mechanically perfect dimensions and uniformity. But it all depended upon the newly found principle or physical fact that solid lead would thus flow around a bridge piece, and again unite into a homogeneous mass to form a tube. This being true, we have a peculiar set of circumstances, for the same style of machine had been used before and in the same way for forming macaroni and in making clay pipe, and the claim was worded in a peculiar way as:

> "We do not claim as our invention and improvement any of the parts of the above described machinery, independently of its arrangement and

> combination above set forth. What we do claim as our invention, and desire to secure, is the combination of the following parts above described, to wit, the core and bridge, or guide die, when used to form pipes of metal, under heat and pressure in the manner set forth, or in any other manner substantially the same."

The judge in the Circuit Court had instructed the jury in respect to patentability over the publications cited, showing the application of like machines in other arts, that:

> "The result is a new manufacture, and even if the mere combination of machinery in the abstract is not new, still, if used and applied in connection with the practical development of a principle newly discovered, producing a new and useful result, the subject is patentable. In this view, the improvement of the plaintiff is the application of a combination of machinery to a new end—to the development and application of a new principle, resulting in a new and useful manufacture. That the discovery of a new principle is not patentable but it must be embodied and brought into operation by machinery, so as to produce a new and useful result. Upon this view of the patent it is an important question for the jury to determine, from the evidence, whether the fact is established, on which the alleged improvement is founded, that lead in a set or semi-solid state can thus be reunited or welded, after separation," and further—
>
> "That in the view taken by the court in the construction of the patent, it was not material whether the mere combinations of machinery referred to were similar to the combinations used by the Hansons, because the originality did not consist of the novelty of the machinery, but in bringing a newly discovered principle into practical application, by which a useful article of manufacture is produced, and wrought pipe made as distinguished from cast pipe."

A verdict and judgment sustaining the claim was rendered.

It, therefore, appears that the lower court based the validity of this claim entirely on the newly found principle of nature, the physical fact that solid lead would thus divide and homogeneously unite under pressure, and the wording of the instructions seems very similar to the expression of opinion in the English case, Neilson *et al. vs.* Harford *et al.*, above referred to, and another on the same patent, Househill Company *vs.* Neilson. But we have the distinction between this case and the English cases that English patents do not to such extent depend on the exact construction of the claims, and, second, that the apparatus described in Neilson's patent was not old, as in the present case. The English court could, therefore, say in considering Neilson's patent that it was not for a principle, but for apparatus or process embodying a principle, and, therefore, as the apparatus and corresponding operation or function were novel, the patent was held valid. But no such latitude is allowable in American practice. Therefore when the present case was appealed to the Supreme Court on the ground that the above quoted instructions to the jury were erroneous, a majority of the court held that in view of the form of the claim, as being for the combination of the several mechanical elements when used to produce lead pipe, that the novelty of the machine alone was material to patentability, and that the principle of nature or physical fact involved in the behavior of lead could not be held to affect the question, that it was merely a case of double use. The court stated, however, in discussing the erroneous idea of the Circuit Court, that there was much confusion both in court decisions and in the text books about the distinctions between principles and processes, and as to patentability of the exclusive use of the latter. But the court stated positively that principles, fundamental truths, or facts of nature were not included in the scope of the term art of the patent statutes, and this would apply either to the appropriation for exclusive use and for a particular purpose of a known fact or principle or to the exclusive use in general of a newly found or discovered fact or principle. Mere discovery of a natural fact or scientific truth which necessarily existed before as well as after being found, is not invention, but any step or steps directed to the application of one or more of these facts or principles is a subject of invention.

In Tilgman *vs.* Proctor, U. S. Reports, 102, page 707, 1880, we have another Supreme Court decision which discusses the subject of processes patentably considered.

Tilgman, on October 3, 1854, secured a patent, No. 11,766, for a process of separating vegetable or animal fats into their components, glycerine and fatty acid, by subjecting an emulsion of the fat in water to a temperature between 440° F. to 660° F., depending upon the particular fat treated and speed of reaction desired, under a pressure of 2,000 pounds per square inch. This resulted in a reaction of water with the fat to split it into glycerine and fatty acid, which separated when allowed to stand and cool into two layers which could be drawn off separately.

The single claim was worded as follows:

> "The manufacture of fat acid and glycerine from fatty bodies by the action of water at a high temperature and pressure."

This claim does not clearly set forth any positive steps performed, but merely refers to the action of water at high temperature and pressure.

The court construed it to mean subjecting to a high degree of heat, a mixture of fat and water, which construction involves the substitution of the words *subjecting to* for the expression *by the action of*, thereby making the claim more positive in terms of steps. After thus construing it, the court held that it was not for a principle or chemical fact—the fact that water at high temperature and pressure would decompose fat—but for a proper process. It said:

> "In the first place, the claim of the patent is not for a mere principle. The chemical principle, or scientific fact upon which it is founded is, that the elements of neutral fat require to be severally united with an atomic equivalent of water in order to separate from each other and become free."

Thus indicating that if the claim had been considered to be for a mere chemical fact, it would not have been valid.

The third important case along this line is the decision of the Supreme Court in the so-called Telephone Cases, 126 U. S., 1. The court rendered a single decision on five appeals from five separate circuit court cases, involving the two patents to Alexander Graham Bell, No. 174,465, March 7, 1876, and No. 186,787, January 30, 1877. One of these patents was based on the principle that if an iron diaphragm is vibrated in the neighborhood of an electro-magnet through which a current is flowing, undulations will be set up in the electric circuit which correspond exactly to the vibrations of the air which accompany vocal or other sounds. This patent also disclosed other ways of producing the undulating current, one of which consisted of a wire dipping into a bath of mercury to a greater or less extent according to the sound waves, which varied the resistance of the circuit to a current flowing through the wire and bath. The other patent involved the same general idea except in place of an electro-magnet, a permanent magnet surrounded by a coil was used and an undulatory current was generated by the nagneto effect of the vibrating diaphragm in the neighborhood of the coil and permanent magnet. Any one of these species of device could be used as the transmitter or sending instrument and either the first or third forms of instrument was used at the receiving end of the line where the undulatory current flowing through the coil vibrated the diaphragm to create corresponding sound waves.

The important question in this case was the scope of claim 5 of Patent No. 174,465, worded as follows:

> "The method of, and apparatus for, transmitting vocal or other sounds telegraphically, as herein described, by causing electrical undulations similar in form to the vibrations of the air accompanying the said vocal or other sounds, substantially as set forth."

This claim is of very queer form according to our present practice. It seems intended to cover both process and apparatus by the expression "method of and apparatus for" and it is very indefinite or incomplete as to what steps are included when considered as a process. It merely states, in substance, the method of transmitting sound by causing electrical undulations similar in form to the vibrations of the air accompanying the sound. The only step set forth is—causing electrical undulations, which obviously would not by itself transmit sound; perhaps the words "as herein described" used in the claim, were considered sufficient to involve other necessary steps. However, the court held that this was a valid claim to cover each of the above species of processes, and accompanying device. The court said:

> "In this art—or what is the same thing under the patent law, this process, this way of transmitting speech—electricity, one of the forces of nature, is employed; but electricity left to itself will not do what is wanted. The art consists in so controlling the force as to make it accomplish the purpose."
>
> "It had long been believed that if the vibrations of air caused by the voice in speaking could be reproduced at a distance by means of electricity the speech itself would be reproduced and understood. How to do it was the question. Bell discovered that it could be done by gradually changing the intensity of a continuous electric current so as to make it correspond exactly to the changes in the density of the air caused by the sound of the voice. This was his art. He then devised a way in which these changes of intensity could be made and speech actually transmitted. Thus his art was put in condition for practical use."

It seems, therefore, that the court did not regard Bell's patent as being for a mere principle, but for a process, although the claim is of rather vague form.

Even considering the indefinite form of claim in each of the three patents of Morse, Tilgman and Bell, there seems to be a difference in the intent or fundamental idea between the claim of Morse and those of Tilgman and Bell.

Morse's claim is, in effect—

> ". . . the essence of my invention being the use of the motive power of the electric or galvanic current which I call electromagnetism however developed, for marking or printing intelligible characters, signs, or letters at any distances."

Tilgman claimed, in effect—

> ". . . decomposing fats by the action of water at a high temperature and pressure."

While Bell claimed in effect as to the process:

> "The method of transmitting sound as herein described by causing electrical undulations, similar in form to the vibrations of the air accompanying the said sound."

There is less difference between Morse's and Tilgman's claim than between Bell's and the other two. Bell's claim seems merely to be open to the fault of being for an incomplete process for transmitting sound. The only positive step included in his claim is, causing electrical undulations corresponding to sound waves, whereas a second important step would be necessary, that of causing sound waves corresponding to the electrical undulations produced. The claim could not be held to be for the exclusive use of any scientific fact or principle as such. It is not so stated. It is stated in the form of a step or act to be performed, while Morse's claim, on the other hand, is of different form, as boldly for the use of electromagnetism for marking characters at a distance. This is not stated in the form of some specific step or way of using the force or principle of nature, but for any or all ways of using it for that purpose; that is, for the exclusive use of a principle of nature.

Tilgman's claim, if transposed so as to be stated in the same order, would read, "I claim the action of water at high temperature and pressure for decomposing fats."

This brings the difference down to the mere difference between Morse's expression, "the use of electromagnetism," and Tilgman's, "by the action of water at high temperature and pressure." The court, however, construed Tilgman's claim to mean, subjecting fat to the action of water at high temperature and pressure, which clearly makes a process out of it, and removes any doubt that one of the chemical facts of nature is being claimed; that is, the fact that hot water under pressure decomposes fats.

MECHANICAL PROCESSES.

Another question that has involved much controversy is whether processes may consist entirely of mechanical steps and actions as distinguished from involving some chemical reaction.

A series of cases along this line are Corning *vs.* Burden, 15 How., 267, 1853; Risdon *vs.* Medart, 1895, C. D., 330; Westinghouse *vs.* Boyden, 170 U. S., 537, and Expanded Metal Co. *vs.* Bradford, 214 U. S., 366.

The case of Corning *vs.* Burden, 15 How., 267, 1853, involved an alleged method of preparing puddler's balls for rolling according to patent to Burden, 1,890, Dec. 10, 1840. Two species of the machine were illustrated and described in the patent; one was formed of a revolvable drum and a stationary member extending about half way around the drum spaced somewhat eccentrically therefrom to give a gradually narrowing space between the drum and member from one end of the member to the other, so that when a puddler's ball was placed at the wider or mouth end of the space, it would be seized by the rotation of the cylinder and rolled between itself and the member to the narrow end of the space and be discharged as a consolidated and kneaded cylinder ready for the subsequent rolling operation. Another species involving a reciprocating wedge-shaped piece working adjacent a stationary surface accomplished the same result. The claim was worded as follows:

> Having thus fully made known the nature of my said improvements, and explained and exemplified the manner in which I construct the

> machinery for carrying the same into operation, what I claim as constituting my invention, and desire to secure by letters patent, is the preparing of the puddler's balls as they are delivered from the puddling furnace, or of other similar masses of iron, by causing them to pass between a revolving cylinder, and a curved segmental trough adapted thereto, and constructed and operating substantially in the manner of that herein described and represented in Figs. 2 and 3, of the accompanying drawings; or by causing the said balls to pass between vibrating or reciprocating tables, surfaces, or plates of iron, in the manner exemplified in Fig. 1, in the accompanying drawing, or between vibrating or reciprocating curved surfaces operating upon the same principle, and producing like result by analogous means.

The fact that two entirely different styles of apparatus were described, and others suggested, for carrying out the process indicates that there was a proper process involved, but expressions used in the case seem to indicate that the novelty was thought to be in the machine. In the preamble we find:

> "Be it known that I, etc., have invented an improvement in the process of manufacturing iron, which improvement consists in the employment of a new and useful machine for the rolling of puddler's balls, or balls prepared in the puddling furnace, and of other similar masses of iron."

and in the oath—

> "that he does verily believe that he is the original and first inventor or discoverer of the said machine."

The claim, however, is indefinite as to whether process or machine is claimed, but seems to incline to a process rather than to a machine in the statement that what he claimed as constituting his invention and desired to be secured by letters patent, was the preparing of the puddler's balls as they are delivered from the puddling furnace, or of other similar masses of iron, by causing them to pass between wedging surfaces operating as described to produce the desired result. The court was in doubt whether the claim was for a process or machine and their discussion of the question was in such terms as to raise doubts as to patentability of mechanical processes.

The court decided that the patent should be held to be for the machine and not for a process. This conclusion seems to have been reached as a result of three reasons or circumstances; first, because Burden in his specification refers several times to his invention as being for a new and useful machine; likewise, in the oath, that he believed himself to be the inventor of the machine; and second, to what seems to have been an opinion that purely-mechanical processes were not subjects of patents, that only those involving chemical or other elemental forces were; and, third, that processes were usually discovered rather than deliberately devised.

That part of the decision relating to the second and third reasons reads as follows:

> "Is the plaintiff's patent for a process or a machine?
>
> "A process, *eo nomine*, is not made the subject of a patent in our act of Congress. It is included under the general term 'useful art.' An art may require one or more processes or machines in order to produce a certain result or manufacture. The term machine includes every mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result. But where the result or effect is produced by chemical action, by the operation or application of some element or power of nature, or of one substance to another, such modes, methods, or operations are called processes."
>
> "A new process is usually the result of discovery; a machine of invention."
>
> "The arts of tanning, dyeing, making waterproof cloth, vulcanizing India rubber, smelting ores, and numerous others are usually carried

on by processes, as distinguished from machines. One may discover a new and useful improvement in the process of tanning, dyeing, etc., irrespective of any particular form of machinery or mechanical device, and another may invent a labor saving machine by which this operation or process may be performed, and each may be entitled to his patent. As, for instance, A has discovered that by exposing India rubber to a certain degree of heat, in mixture, or connection with certain metallic salts, he can produce a valuable product or manufacture. He is entitled to a patent for his discovery, as a process or improvement in the art, irrespective of any machine or mechanical device. B, on the contrary, may invent a new furnace, or stove, or steam apparatus by which this process may be carried on with much saving of labor and expense of fuel, and he will be entitled to a patent for his machine, as an improvement in the art. Yet A could not have a patent for a machine or B for a process, but each would have a patent for the means or method of producing a certain result or effect, and not for the result or effect produced. It is for the discovery or invention of some practicable method or means of producing a beneficial result or effect that a patent is granted, and not for the result or effect itself. It is when the term process is used to represent the means or method of producing a result, that it is patentable, and it will include all methods or means which are not effected by mechanism or mechanical combinations."

"But the term process is often used in a more vague sense, in which it can not be the subject of a patent. Thus, we say that a board is undergoing the process of being planed, grain of being ground, iron of being hammered or rolled. Here the term is used subjectively or passively as applied to the material operated on, and not to the method or mode of producing that operation, which is by mechanical means, or the use of a machine as distinguished from a process."

> "In this use of the term, it represents the function of a machine, or the effect produced by it on the material subjected to the action of the machine. But it is well settled that a man can not have a patent for the function or abstract effect of a machine, but only for the machine which produces it."
>
> "It is by not distinguishing between the primary and secondary sense of the term 'process' that the learned judge below appears to have fallen into an error. It is clear that Burden does not pretend to have discovered any new process by which cast iron is converted into malleable iron; but a new machine or combination of mechanical devices, by which the slag or impurities of the cast iron may be expelled or pressed out of the metal when reduced to the shape of puddler's balls. The machines used before to effect this compression were tilt hammers and alligator jaws, acting by percussion and pressure, and nobbling rolls with eccentric grooves, which compress the metal by use of the inclined plane, in the shape of a cyclovolute or snail-cam."
>
> "In subjecting the metal to this operation, by the action of these machines, more time and manual labor is required than when the same function is performed by the machine of Burden. He saved labor, and thus produced the result in a cheaper, if not a better, manner, and was therefore the proper subject of a patent."
>
> "In either case, the iron may be said, in the secondary sense of the term, to undergo a process in order to change its qualities, by pressing out its impurities; but the agent which effects the pressure is a machine or combination of mechanical devices."

This decision is interesting as showing the different views that have been taken of this subject of invention, although it is apparently overruled by the decision in Expanded Metal Co. *vs.* Bradford, 214 U. S., 366, since it is there held that purely mechanical processes may be patentable; and it is not apparent but that an inventor might set to work to devise a process rather than to discover one. It would seem that such intentional development would usually be the case where the process involved the utilization in turn of several chemical or physical facts, as the chances of mere accidental performance of the process would be small. Where the process consisted of a single step it might happen that such discovery would take place.

Following this case, Corning *vs.* Burden, we find the case of Risdon *vs.* Medart, 158 U. S., 68, and 1895 C. D., 330, inclining even more to the position that a mechanical process could not be the subject of a patent. This case involved three patents; one for a process of manufacturing belt pulleys, and two for the pulley. The process patent is the only one which is of interest in this relation. It is Patent No. 248,599, of October 25, 1881, to Philip Medart.

This is a patent for a specific process of building up a belt pulley of separate parts instead of casting an integral wheel. It consists of axially boring a portion which constitutes the hub and spokes, that is, an integral spider. Then truing up the outer ends of the spokes in respect to the bore of the hub; then mounting a rim on the spokes and truing up the rim. Apparatus suitable for use in the process is shown and described in the patent. Claim 3 represents the complete process and reads as follows:

> "The herein described improvement in the art of manufacturing belt pulleys, which consists in centering the pulley center or spider, boring the hub thereof, grinding the center or spider concentric with the axis of the pulley, securing the rim concentric with the axis of the pulley, and then grinding or squaring the edges of the rim, substantially as set forth."

After reviewing several of its prior decisions, the court cited with approval Corning *vs.* Burden, 15 How., 252, and apparently concluded that because Medart's process was not a chemical process and did not consist in the use of one of the agencies of nature, it could consequently be only the function of a machine and not patentable. Whether this process necessarily depends upon a particular machine and could not be performed by other machines or by hand does not seem to have been considered. No reason is apparent why it could not be so performed, that is, without a specific machine, or why it is not a proper process according to present practice. It may be noted here that the practice of the Patent Office granting these mechanical processes undoubtedly finally settled the law.

Another case often cited in connection with the question of mechanical processes and function of machines is that of Boyden Power Brake Co. *et al.* *vs.* Westinghouse *et al.*, and Westinghouse et *al*: *vs.* Boyden Power Brake Co. *et al.*, 170 U. S., 537 and 1898 C. D., 443.

This case involved the question of infringement of claims 1, 2, and 4 of the patent to Westinghouse, 360,070, for a "Fluid Pressure Automatic-Brake Mechanism." The question related to a rather specific feature of the air brake in general and for that reason a careful construction of the claims was necessary. The court took into consideration that the patent was not of the pioneer type. The claims were drawn to apparatus of which claim 2 will serve as illustration.

> "Claim 2. In a brake mechanism, the combination of a main air pipe, an auxiliary reservoir, a brake-cylinder, and a triple valve having a piston whose preliminary traverse admits air from the auxiliary reservoir to the brake-cylinder, and which by a further traverse admits air directly from the main air pipe to the brake cylinder, substantially as described."

It was urged that this claim be construed to be for a process so as to broaden its scope sufficiently to cover the alleged infringing device, but the court held that, if considered to be for a process, there might be doubt of its validity, since it still seemed to be an open question whether processes which did not involve chemical or other similar elemental action were valid, citing Corning *vs.* Burden, 103 U. S., 461, and Risdon *vs.* Medart, 158 U. S., 680, as indication of the negative contention, and Eastern

Paper Bag Co. *vs.* Standard Paper Bag Co., 30 F. R., 63; Union Paper Bag Machine Co. *vs.* Waterbury, 39 F. R., 389; and Travers *vs.* American Cordage Co., 64 F. R., 771, as indication of the affirmative; and further that if it should be attempted to construe the claim in the direction of a process, it would apparently not be such, but merely the function of the apparatus or machine which would be an unpatentable subject. However, the court held that they would not assume or decide either of the above questions since the claim was clearly drawn to a mechanism and could not in any way be construed to be for a process.

This case, therefore, still left the patentability of mechanical processes in doubt so far as the Supreme Court is concerned. Eleven years later, however, we find a decision by this court, which clearly and definitely states that such processes are proper subjects of patents. That case is the case of The Expanded Metal Co. *et al.* *vs.* Bradford *et al.*, and The General Fireproofing Co. *vs.* The Expanded Metal Co., 214 U. S., 366, and 143 O. G., 863, 1909, C. D., page 521, which involved a patent to John F. Golding, 527,242, for a process of forming expanded sheet metal suitable for use in plastering and cement work. The process claimed is purely mechanical, yet clearly not dependent on any particular machine for performing it. The process is very clearly set forth in a claim of good form as follows:

> "The herein described method of making open or reticulated metal work which consists in simultaneously slitting and bending portions of a plate or sheet of metal in such manner as to stretch or elongate the bars connecting the slit portions and body of the sheet or plate, and then similarly slitting and bending in places alternate to the first-mentioned portions, thus producing the finished expanded sheet metal of the same length as that of the original sheet or plate, substantially as described."

Looking at the subject now, there appears to be no logical reason why the propriety of such processes should be questioned; but as has been shown certain decisions had assumed, although they did not perhaps expressly decide, that they were not patentable.

The court disposed of the question in this case by the statement that—

> "an invention or discovery of a process or method involving mechanical operations and producing a new and useful result may be within the protection of the Federal Statute and entitle the inventor to a patent for his discovery."

This statement by the Supreme Court would seem to settle the question. It may be noted that quite a number of lower court decisions had clearly announced this conclusion of which *In re* Weston, C. D., 1907, 290, by the Court of Appeals of the District of Columbia, and those cited above in the case of Westinghouse *vs.* Boyden are good examples.

Still a different type of alleged process is that involving motors or other apparatus operated by electricity, steam, hydraulic pressure, etc. We have a few decisions along this line which are instructive. One is—*In re* Creverling, C. D., 1905, 684, appealed to Court of Appeals of the District of Columbia from the Patent Office, relating to an alleged process of regulating an electric generator or dynamo. The application included description and drawings of the particular apparatus and no description of any process, the mere operation of the device being the alleged process.

Briefly, the invention consisted in varying the field or other circuit of the machine by means of an electric motor device in which an independently determined magnetomotive force is opposed by a magnetomotive force which is a function of the current generated. There is thus produced a resultant magnetic field whose polarity is dependent upon the current generated. Exposed to the action of the resultant magnetic field is a member (a motor armature) which tends to set up an independent magnetic field, producing motion in a positive or negative direction and thereby causing the generator to be regulated in the manner desired. This final regulation was done actually by the movement of a rheostat included in circuit with the field of the generator and mechanically connected with the motor armature. An example of the claims is—

> "The herein described method of regulating the output of a generator which consists in producing mechanical motion by the combined action of a flux which is the resultant effect of a magnetic motive force which is a function of the current generated, and a determined magnetomotive force and another flux substantially as specified."

The court said that since applicant already had a patent on a machine operating on this principle, the alleged process was so associated with the machine that it would be unpatentable thereover. Incidentally, the court also said that the claims, if considered to be proper process claims, were incomplete for the purpose alleged because they omitted one of the essential steps of the process, that of the operation of the rheostat, and that they would be unallowable on that account.

A very recent case, however, seems to be in conflict with the above conclusion as to what constitutes a true process aside from the function of the machine and patentable thereover. This case is Century Electric Co. *vs.* Westinghouse Electric and Manufacturing Co., 191 Fed. Rep., 350, 207 O. G., 1249. It relates to patentability of a process over apparatus, where the two seem to be very closely associated. The two subjects were allowed to the same patentee in different patents. They were patents 511,915 and 555,190 to Nicola Tesla for an electric motor and process.

Claim 1 of patent 511,915 for the process reads as follows:

> "The method of operating electro-magnetic motors having independent energizing circuits as herein described, which consists in passing an alternating current through one of the energizing circuits and inducing by such current the current in the other energizing circuit of the motor as set forth."

The machine as set forth in claim 1 of patent 555,190 reads as follows:

> "In an electro-magnetic motor, the combination of independent energizing circuits, one adapted to be connected with a source of alternating current, the other arranged in inductive relation to the said first circuit whereby the motor will be operated by the resultant action of the two circuits as set forth."

The court in this case held the above process claim to be a proper one. It seems to me that *In re* Creverling is the more logical of the above two cases, and that the process claim in the second case is entirely useless.

In some cases where an inventor has devised a machine or apparatus, it may be that there is also a proper process involved in connection with it which the device is capable of carrying out. But to entitle him to claim the process, it must be such as not to be dependent exclusively on that particular apparatus and the burden is upon applicant to point out as example another apparatus capable of carrying out the process unless the suggestion of such other apparatus is within the reach of persons skilled in that art. In these cases, unless the Examiner can readily see that other apparatus might be used, such examples should be required, or more directly the claim should be held to be merely the function of the apparatus.

> American Lava Co. *vs.* Stewart, 155 F. R., 731, 1909, C. D., 557.

In re Cunningham, 1903, C. D., 524, Court of Appeals of the District of Columbia, related to an alleged process of coaling ships at sea. It consisted of making a flexible connection between two ships to serve as a conveyor from one ship to the other, then creating tension on the cable to hold it in proper stretched condition. This tension was created by propelling one ship from the other. There had already been allowed a claim on the apparatus and the process claim rejected read as follows:

> "The improvement in the art of coaling ships in the open water herein described, the same

> consisting in making a flexible connection athwartships, or abeam, between the ship to be supplied and the ship from which the coal is to be taken at sufficient distance apart to permit rolling and pitching of both ships without interference with each other, and creating sufficient lateral pressure between one of the ships and the surrounding water on the side toward the other ship to maintain them at such distance apart."

The court was very positive that there was no patentable process set forth; that the alleged process could not be conceived of independently of the particular apparatus of which it was merely the function or use.

MISCELLANEOUS FEATURES.

Where a process is an obvious and apparently the only patentable way of producing an article, the invention is said to reside in the article and not in the process. The Examiner may suggest this idea to applicant where the invention seems to be claimed in the wrong form. *Ex parte* Trevette, 1901, C. D., 170, and Mica Insulator Co. *vs* Commercial Mica Co., 157 F. R., 90.

A situation similar to this is that if a patent is taken out for an article defined by a process of producing it, that patent is a bar to the allowance of any subsequent separate patent claiming that process.

> Mosler *vs.* Mosler, 127 U. S., 354, 43 O. G., 1115, 1888, C. D., 420, and Oval Wood Dish Co. *vs.* Sandy Creek Mfg. Co., 1894, C. D., 216.

Another point of importance in treating process claims is the rule that in applying references it is not sufficient that a prior apparatus might have been used to carry out the process, but it must appear that it was actually intended to perform the process, or that such use would have been obvious to a person skilled in the art in which it was used. The mere existence of a piece of apparatus does not necessarily suggest all the possible uses of it, and any process which would be outside the range of those which would obviously suggest themselves upon use of the apparatus would be patentable over it. This is merely the converse of the rule that the use of an old device in an entirely new and non-analogous art may amount to invention.

The former of these rules was announced in the Supreme Court decision—The Carnegie Steel Co. *vs.* The Cambria Iron Co., 1902, C. D., 592. The patent involved was that to Jones, 404,414, June 4, 1889. It involved the question of anticipation of the process for producing Bessemer steel directly from blast furnace iron without intermediate cooling, involving as the important step the feature of maintaining a large bath of molten metal replenished by successive portions of molten metal direct from one or more blast furnaces and discharged from the bath in small quantities into the converter to be blown. The important thing was the fact that there was maintained at all times in the mixing bath a mass of metal, many times greater than the successive additions and discharges.

The claim involved was:

> "In the art of mixing molten metal to secure uniformity of the same in its constituent parts preparatory to further treatment, the process of introducing into a mixing-receptacle successive portions of molten metal ununiform in their non-metallic constituents (sulfur, silicon, etc.), removing portions only of the composite molten contents of the receptacle without entirely draining or emptying the same, and successively replenishing the receptacle with fresh ununiform additions, substantially as and for the purpose described."

Several prior devices cited might have been operated so as to follow the process, but the court did not find sufficient proof to show that they had been so operated or that their use would have suggested the Jones process; hence the above rule.

This rule was followed also in Loew *vs.* German-American, 164 Fed. Rep., 855.

AGGREGATION.

In general, the same rules apply to processes as to apparatus in determining whether an alleged process is in fact a single process, that is, a proper combination of steps, or whether it is made up of parts which are independent of each other and consequently an aggregation, and also, if the association of steps forms a proper combination, to determine whether the novelty is in the combination, as a whole or merely in one part of it. If merely in a part, then the claims should be limited to the part that is new.

As in machines and apparatus, the elements making up the process, that is, the steps and any groups of steps which form sub-processes, must cooperate with each other to produce a new result which is different from the mere sum of the results of the steps if performed separately. There must be some degree of direct dependence upon each other.

A very difficult question peculiar to processes arises where several processes which are old and which belong to arts that are distinct are associated with the object of using up by-products. A favorite expression for this style of associated processes is "cyclical processes." They are often very important commercially and the continuance of some chemical industries depends upon such special association. A large number of these alleged processes will be found to sift down to a purely commercial proposition. The several distinct processes involved not mutually affecting the operation each of the other; each would operate in the same way whether associated or not. This condition of affairs seems plainly not to fulfill the established rules as to patentable combinations and constitutes only an aggregation, and this would seem to follow whether the individual processes were new with applicant or old. If, however, as happens in some cases, they do affect each other so as to produce a new result, then they are, of course, patentable as a new process.

Mond *vs.* Duell, decided by Court of Appeals, D. C., 1900, C. D., 298, announces the simple rule that association of two old processes does not constitute invention where no new result is produced.

This case involved the following claim:

> "The herein described improvement in the manufacture of zinc, which consists in lixiviating roasted zinc ores by a solution of caustic soda or potash, electrolyzing the solution of zinc oxide thus obtained with an anode of sodium or potassium amalgam, and causing deposit of zinc on a metallic cathode, as specified."

Both main parts of this alleged process were old; first, that of making a zinc solution by lixiviating roasted zinc ores with caustic soda or potash, and, second, that of electrolyzing the zinc solution in the same way. No new result would be expected from this mere association and apparently applicant could show none.

The rule that each claim should set forth all the steps necessary to make a process or subprocess, which is sufficiently complete to be operative to accomplish some useful purpose, is as important in processes as the analogous rule in machine cases requiring a complete combination or subcombination. As was said in the case of Oxnard & Baur, C. D., 1899, 170, decision by the Commissioner of Patents:

> "An applicant may properly in one case have claims covering the principal or essential steps of his process and other claims including those steps, together with other specific steps which are not absolutely necessary to the performance of the process, but which add to its efficiency or make its operation more perfect. The mere inclusion in one claim of a step not included in another claim does not, therefore, make those claims cover entirely different processes which can not properly be retained in one case."

The invention involved was a process of making sugar, and claim 2 included as an intermediate step in that process "agitating and reducing the temperature of this second masse-cuit," whereas claim 1 omitted that step.

The court held that this step was not so vital to the process that its inclusion or omission would materially affect the principle or operation thereof.

A similar rule was announced in the case of *In re* Creverling, C. D., 1905, 684.

The above remark does not refer to claims related as process and sub-process, but to an integral process not susceptible of division into any distinct sub-processes. It is well established that process and sub-process may stand together where the sub-process is complete for some useful purpose, and where it does not belong to a specific and recognized art of its own.

As to alternate species of process either as complete or sub-processes, there is no reason why the same rules do not apply as in machine cases in accordance with *Ex parte* Eagle, 1870, C. D., 137.

Another situation which often arises in process cases is where, after a series of steps, two or more products may result and two or more processes may be necessary to continue the treatment of these two products. It might be said that the process splits or branches out into a plurality of different lines; these different lines considered separately might or might not form recognized independent subjects of invention; if they do, of course they should be divided; if not, they may stand together.

A system of transacting business is not a subject of a patentable process, though made up of a series of transactions to be performed in sequence.

Hotel *vs.* Lorain, 160 Fed., 467.
Fowler *vs.* City of New York, 121 Fed., 747.

The law requires that an applicant state the necessary steps, whether or not he is able to state the scientific principles upon which the process depends. But it is always desirable, if possible, to discover and state the principle involved, provided it can be correctly determined, because if an alleged invention be made and the case be prepared on purely empirical methods of research the applicant may omit to describe an essential point or step which makes the process operative but which in the course of arbitrary performance of the process had been done unintentionally or merely incidentally to some other step which was thought important, but which was not. This would not happen if the theory of the process were thoroughly understood; and in that case also claims can be framed in the most direct and broadest terms to protect the important points of the process. This relates to chemical processes principally, since the principles underlying purely mechanical processes are usually obvious from mere description of the process. Wherever principles are set forth as the foundation of a process, the examiner should carefully verify them by comparison with published statements of reliable authorities, if available, and if not available, or if they vary therefrom, then by affidavits stating facts found to be true by tests performed by reliable experts in that line.

The weight put upon the theory or principles on which a process depends is illustrated by the case of Steward *et al. vs.* American Lava Co. *et al.*, C. D., 1909, 557, in which the United States Supreme Court concluded in regard to the patent to Dolan, 589,342, Aug. 31, 1897, Acetylene-Gas Burner, that—where an application as originally filed did not differentiate from the prior art either in construction or theory of operation and an amendment thereto was filed, without verification by the inventor, introducing a new theory of operation and containing process claims covering such theory, such claims are invalid as covering new matter.

The particular amount of detail in the directions for carrying out the steps depends upon the nature of the process; if it is obvious from a mere mention of the general steps necessary to the process how they might be carried out, this is sufficient; if not obvious to one skilled in the art, then the inventor must give specific directions both as to details of steps and apparatus suitable for one way of performing the process. A very convenient kind of drawing to illustrate a chemical process is a diagrammatic one; that is, one in which the minute details of the apparatus are not shown, but in which mere outlines of the elements are used and legends are applied to the different elements to show the reactions or steps taking place in that part.

A patent for a process including steps for the performance of which there is no known means, would be void even where the means could probably be devised, but where devising the means would necessitate invention.

Dountown *vs.* Yeager Milling Co., 17 O. G., 906.

Where a patent clearly shows and describes a machine use of which necessarily involves the performance of the process, it constitutes a bar to the grant of a patent on that process.

New Process Fermentation Co. *vs.* Koch, 28 O. G., 535.

January 21, 1915.

Henry [illegible]

29

Suggestions as to Methods of Shortening the Time Required to Finally Adjudicate Applications for Patents.

A paper read January 28, 1915, before the Examining Corps of the United States Patent Office

BY

WM. A. KINNAN,
Principal Examiner, Division Sixteen,
U. S. Patent Office.

WASHINGTON, D. C.
1915.

THE LAW [illegible]

Some Suggestions as to Methods of Shortening the Time Required to Finally Adjudicate Applications for Patents

By

WM. A. KINNAN,
Examiner, Division Sixteen,
U. S. Patent Office.

The subject of patent law has been described as covering a very limited portion of the field of general law. While not extensive, it is, gentlemen, as deep as a well.

It is believed to be generally recognized that there is no other branch of the law that requires a greater mentality, a wider knowledge, or greater skill and training.

The Examiner, who with the all too little time for each case, is able to apply this law with reasonable accuracy, to the multitude of different inventions, embraced in applications possessing a multitude of different imperfections and insufficiencies, and adjudicate the enormous number of claims required to mark the limits of the rights involved, must indeed possess a degree of skill, judgment and learning that is, to say the least, unusual. He must be at once judge, jury and counsel. He must determine the law, weigh the evidence, and combat and expose the fallacies in the arguments presented by the too zealous applicant. All this he must do with a maximum of speed, if the work before him is not to hopelessly accumulate.

It is the purpose of this paper to make some suggestions looking to the shortening of the time required to finally adjudicate the application. That every effort to this end is necessary is abundantly evidenced by the fact that steadily the number of applications filed each year has increased, and as steadily the time required to adjudicate each case has also increased, until now, the corps staggers under a load it is well nigh impossible to carry.

It is of little utility, perhaps, to discuss the reasons for this increase. It will be sufficient to merely note, in passing, that they are found in the fact that we are the most inventive people in the world; that our industrial and commercial supremacy is in a considerable measure due to this fact, and the steady increase in our population brings with it the natural increase in the number of applications filed each year. In 1840, there were 765 applications filed; in 1860, over 7,000; in 1880, 23,000: in 1900, 41,000; in 1913, 70,000. The examiners will, in the near future, be facing the stupendous task of examining a hundred thousand new cases a year.

Experience has shown that there is no such thing as an exhausted art.

Even where there are lulls in the advance of some of the arts, these are more than offset by the sudden activity in others, brought about by the invention of some radically new thing.

The invention of the wireless telegraph; of the successful flying machine; of the automobile, have resulted in a flood of applications for inventions in the nature of improvements and refinements, all having their bearing upon the creation of the eventually practical, commercial form of apparatus.

These pioneer inventions also bring about an increased activity in a large number of related arts.

A wireless telegraph station must have its source of high frequency current, its structural towers of great height, its special conductors of high insulation. In fact, these new conditions have brought about an increased activity in almost every branch of the electrical art.

A flying machine and an automobile must each have a gas engine, with its electric igniting means, its gas mixing apparatus, and its multitude of related devices pertaining to many mechanical and metallurgy arts. All these take on special designs and refinements incident to their new use, and bring their multitude of applications to the various divisions of the office having in charge the cases relating to these various arts.

The art that must be searched is increasing by leaps and bounds, and reclassification, imperative as it is, and helpful as it is, can not solve this part of the problem, and is only a partial, though welcome, aid.

The complexity of the subject-matter of the applications is ever increasing. The fact that more and more of the complicated manual operations and processes are being accomplished by machinery, and that existing machinery is being more and more refined, made automatic, and made to do things requiring almost a human intelligence, with a minimum of supervision, brings about this result.

There has also grown up a class of people who are desirous of a patent of some sort, of any sort, who keep an application which is fairly anticipated before the Examiner as long as possible, hoping by some argument or shift, or amendment, to find some slight point on which to hang an allowable claim or to weary or argue the Examiner into allowing some sort of a claim, so that counsel may obtain his fee, or satisfy an uninformed client or a client who is indifferent to the validity of his patent but wishes to mark his device patented merely for the intimidating effect upon would-be rivals.

It is plain enough, therefore, that in the near future, the work of the examining corps will not grow less. The situation, as we are all aware, has resulted in the cases awaiting action reaching the somewhat startling number of over 25,000

There are several very cogent reasons why applications should be speedily brought to a final adjudication.

Applications long pending are a source of scandal and abuse. Often they do not embody the inventions in commercial form, they are kept pending in the office while others, ignorant of them, and therefore obtaining no aid from them, invent and produce successful devices, create a commercial value and status at great expense and risk, only to find that the owner of the long pending application has placed therein a claim dominating all that the later inventors have done, has issued the patent and by legal process lays tribute upon the labors and the rewards of the later innocent inventors. Such a proceeding is so repugnant to justice and equity that this office is warranted in doing all it can to prevent such applications from being kept pending during long periods.

Further, by removing the cause, legislation honestly intended to reach this class of cases, but also doing great harm to inventors whose applications are necessarily delayed in the office, will be rendered needless.

The long pendency of a large number of applications before the office, by consuming its time in reconsidering them over and over, renders the period before a new application is reached for the first examination so long that the inventor frequently suffers great loss. The art may pass beyond his invention. He may lose his opportunity to sell. He dare not incur the expense incident to manufacture because of lack of protection. Having no indication of the attitude of the office his commercial interests, so far as that invention is concerned, are entirely halted.

The foregoing considerations are sufficient to show that the office has reached a condition that may be regarded as almost critical, and one that fully justifies it in adopting any means, not inconsistent with law and which will not injure the rights of inventors, that will enable the corps to reduce the number of times applications must be reconsidered, the period they may be kept pending, and the number awaiting action.

How is this to be done?

I shall not consider here possible future legislation, but will consider only what can be done with the means at hand.

The standard of work must be maintained. If the examination and adjudication of applications are to be worth while, are to possess any real value justifying the enormous cost involved, the work can not be slighted. Enough patents, more than enough, in spite of the best we can do, are declared invalid in whole or in part.

It is believed there is room for improvement in a conservation of energy.

I am reminded of a youth whom I knew in my younger days, who was wont to contest in foot races. When he was in full action, he had such a habit of waving his arms and moving his body up and down, that he had too little energy or time left for making progress forward. He always came in last. It has seemed possible the office sometimes progressed a little like this youth;

that it takes too many unnecessary actions, and the following suggestions are made, with a good deal of diffidence, in the hope that some economy of time and effort may be realized.

In the first examination of the application, if the action is to go to the merits, let it be a complete one.

In matters of form all objections should, so far as possible, be embodied in the first office letter, and be kept before the applicant in subsequent letters, if necessary, by simple reference to the first letter. This generally enables them to be all out of the way by the time the matters of merit are determined. I recall a letter received in a division in which I was an assistant many years ago, which read something like this: "The informalities and objections, which seem to increase in number with each reexamination of this case, have, we hope, all been cured."

Just a word here about formal objections. It is a well recognized fact that a great many are made that are subsequently waived. Bearing in mind the specification and drawing are addressed to those ordinarily skilled in the art, and they should be clear and understandable, yet as few formal objections should be made as is consistent with this ultimate end. Merely because the Examiner would state a matter differently, or could even state it better, were he writing the description, is no reason for requiring revision or change. If the matter is not incorrect, is not misleading, and the meaning of the inventor is plain, objection should, ordinarily, not be made. The Examiner should be sure his formal objections are really necessary. This saves time, argument and friction.

Before making a search for anticipatory art the application and the invention should be fully understood. It pays to take time to fully and completely comprehend the disclosure every time the case is acted upon. Then the first search should be as nearly complete as it is possible to make it. Not only the broadest and the narrowest claims should be held in mind in searching, but the invention, the thing itself, and its functions should be held in view. Where the invention is simple and fully comprehended a second search is rarely necessary. In the more complex and extensive cases, however, second or even third searches are often necessary, it is true, but even here the gain of a complete search is proportionally great, and second searches will be proportionally fewer.

In regard to the search:

It is said all men are equal before the law. Some one has added, "this is true, however, only in theory." The same is true of claims.

A narrow claim limited to the precise embodiment of the invention disclosed is much less likely to be anticipated by anything found outside the class where the case belongs. A search on such a claim, therefore, should seldom be prosecuted beyond rather restricted limits.

Further, a narrow structural claim is seldom sued upon. An alleged infringer almost always adopts a modification and escapes the terms of such a claim. Also courts are very apt to sustain a specific claim where an infringer uses the very same thing on which it is based.

For these reasons, therefore, the narrow structural claim is not so important, is of less value and is much less frequently heard of after being once granted.

It is the broad claim that is important. It is this claim that dominates an art, that spreads over the territory that others may seek to occupy. It is almost always this type of claim that is brought before a court, and by which the plaintiff seeks to restrain an alleged infringer who uses something different.

This type of claim is valuable, if it is good, and is harmful if it is invalid. The inventor should have it, if he is entitled to it, and it should be denied him if it is not rightly his. Such a claim should be more carefully weighed. The chance of anticipating such a claim outside the class where the case belongs is proportionally great. Before searching in any place, however, the Examiner should first weigh the question as to whether, if he found something there, it would be in an analogous art and would be a proper reference.

Where an incomplete search is made, the Examiner takes very nearly as much time to make it and fully as much to adjudicate the claims on the art he finds as if he made a complete search. The attorney, in response, amends his case to define from the art found. The Examiner reviews the case, possibly months later and after he has forgotten both the case and how faithfully he searched it. He will usually research the ground previously covered as well as the additional ground he originally should have searched. Here is a great loss of time because he covers the same territory twice. The whole status of the case may now be changed. The first action taken in the case as well as the response of the attorney are rendered almost useless, possibly quite so. The application is now just where it should and would have been had a complete search been made at first. The practice of not making a full and complete search in the first instance has resulted in some attorneys making a practice of not attempting to really advance their cases until after the second or even third action by the Office. It is easy to see that time and energy are lost by such proceedings.

The temptation is great, where an Examiner is driven at top speed to get off his cases so as to make the necessary weekly gain, to make an incomplete search, hoping that when the case comes up again he will have more time. But he merely puts off the evil day, and in the end does more work and gives more time in reaching a final adjudication of a given case than he otherwise would. When this case is multiplied by a hundred or even a thousand, the Examiner is, like the youth in the foot race, wasting a great deal of energy and time. When the search has been made and the Examiner comes to apply his references and adjudicate the claims, some of them may be squarely met by some references. Little time need be wasted here. Some claims, however, may require a combination of references. Here it is almost always best to explain, in as few words as possible, just how the combination is made. Even where the invention is simple, this is often advisable. It puts the matter specifically and squarely before the applicant and he can and must either point out why the combination is not proper or amend the claims. Where a reference lacks an element recited in a claim or must be modified in any way, even if ever so slightly, it is well to make an explanation, in a few specific words, just why the element of the claim which is not in the reference is regarded as insufficient, or just what the modification of the reference consists of. Where the subject-matter is more complicated, these explanations are correspondingly more advantageous. Where an attorney is known to be well skilled in the art, less explanation is necessary. Where an inventor is prosecuting his own case but exhibits sufficient knowledge of patent law to warrant the Examiner in the belief that suggestions will enable the inventor to conclude his case without the aid of an attorney, the explanations should be correspondingly extended and made as specific as possible.

This practice places before the inventor or his counsel all formal objections, the complete art, and the Examiner's interpretation of the relation of such art to the application. It is evident the termination of the prosecution of the case before the Examiner need not be greatly prolonged. In the reasonably simple cases, where the entire scope of the invention can be readily seen and comprehended, the third action by the Examiner with the same references before him should ordinarily be sufficient to conclude the case. There are some cases, where special reasons exist, in which further consideration will be necessary. The Examiner should exercise judgment in each case and not make any fixed rule. With the increase in the complexity and extent of the subject-matter of other cases, a reasonable increase in the number of actions is inevitable. Even in these cases, however, the early citation of the complete art, and the notation of all formal objections, will go far to reduce the number of reconsiderations and reexaminations, while in no manner preventing the applicant obtaining full protection for all he has invented.

Whenever final rejection is about to be taken, and whenever the condition of the case indicates such a course would be helpful, the Examiner should suggest in brief specific terms any amendment which he thinks would advance the case or render the claims allowable.

There is a class of applications that I can not ap proach without realizing I am standing on holy ground

These are the *old* pending cases. Some have been pending five, ten, fifteen, and even twenty-five and more years. I know of no one, or half a dozen, things that will bring about so great an improvement in the condition of work before this Office as the conclusion of the pendency of these cases. Over and over again have they been examined. Unusually they have been amended once a year, some are so old that they fall under the old law of requiring amendment only once every two years. For a variety of reasons, some good and some bad, these cases have been kept in the Office, growing older, their records larger and more cumbersome, and adding very greatly to the labors of the examining corps. The annual amendments made to them have not been calculated or intended to really advance them toward a conclusion. The Examiners, too, have in the past despaired of making much advancement, and their annual actions have sometimes been less complete than they might have been. Until a comparatively recent time the Examiners have felt helpless to solve this problem.

Section 4904, R. S., states:

> "Whenever, on examination, any claim for a patent is rejected, the Commissioner shall notify the applicant thereof, giving him briefly the reasons for such rejections, together with such information and references as may be useful in judging of the propriety of renewing his application or of altering his specification; and if, after receiving such notice, the applicant persists in his claim for a patent, with or without altering his specifications, the Commissioner shall order a reexamination of the case."

Rule 68 is based on this statute and provides that an applicant "may amend as often as the Examiner presents new references or reasons for rejection."

Section 4909, R. S., states:

> "Every applicant for a patent or for the reissue of a patent, any of the claims of which have been twice rejected . . . may appeal from the decision of the Primary Examiner."

Rule 134, which is based on this statute, specifies:

> "There must have been two rejections of the claims as originally filed, or, if amended in matter of substance, of the amended claims, and all the claims must have been passed upon, . . . before the case can be appealed to the Examiners-in-Chief."

These two sections of the statutes and these two rules have constituted the basis for a practice that existed from the adoption of the law, to almost the present time, and which was to the effect that an Examiner could never close the prosecution of a case before him so long as an applicant presented at each reconsideration at least one claim that was different in scope from any previously considered. When it is recalled that an application may have anywhere from half a dozen to several hundred claims, it is at once apparent any skilled attorney could, under such practice, keep an application pending so long as he desired.

This has been the cord that tied the hands of the Examiners and has rendered possible this great accumulation of old cases. By the decision in *Ex parte* Miller (139 O. G., 730), the cord was severed and the examining corps was relieved from this helpless condition which had become well-nigh intolerable. That decision is based upon the view, which is clear enough, that the statute does not contemplate nor require the repeated reconsideration of an application, dependent only upon the will of the applicant or the skill of his counsel in varying the language used to define the invention.

That decision held:

> "Where the Examiner has held that certain claims are unpatentable and has fully advised the applicant of his reason for such holding and the latter, after reasonable prosecution of the case, has failed to so amend as to necessitate the citation of new references and has been unable by argument to convince the Examiner that he was in error, an issue is reached, and the Examiner is justified in refusing to accept further amendment and in finally rejecting the claims then of record in the case."

This ruling, which has been subsequently fully upheld in *Ex parte* Perry (140 O. G., 1001), a second *Ex parte* Miller (150 O. G., 827), and *Ex parte* Lang (153 O. G., 1081), constituted a very marked departure from the old practice, in that it transferred from the applicant to the Examiner, the power to bring the prosecution of an application before the Examiner to a close. This at once made it possible for the corps to put a check upon what was becoming, in some instances, a grave abuse of the latitude of the Office procedure.

In explaining this holding of *Ex parte* Miller, Perry, etc., Mr. Billings pointed out that while it was true Rule 68 provided that an applicant had a right to amend as often as the Examiner presented new references or reasons, this rule also made it incumbent upon the applicant in amending to "clearly point out all the novelty which he thinks the case presents in view of the art disclosed." It is a natural deduction that if an applicant really does this, when he amends, a condition will ordinarily be reached in one or two actions where the Examiner has no new references or reasons to present.

Still the Examiners are not out of the wilderness. These old cases are often complex and extensive in subject-matter. It is not difficult, and the more complicated they are the easier it is, in amending them, to drive the Examiners to "new references or new reasons." This precludes the application of the Miller doctrine, in such instances, and brings them under Rule 68, giving applicants the right to further amend and argue.

Many inventors and attorneys, since the real condition of the Office and the possibility of stringent legislation being enacted have been made known to them by the Commissioner, have recognized the necessity, in the interests of all, for prompt action looking to a bringing to a conclusion these old cases, and have presented carefully prepared amendments which have enabled the Office to considerably reduce the number of such cases. In passing it is worthy of remark that it is surprising and also gratifying to note the extent to which it is possible to advance one of these old cases, by a carefully prepared amendment, without sacrificing any of the inventor's rights.

There are, however, quite a number of these old cases where financial and other reasons impel the applicant to seek a further delay. Sometimes large rival concerns have many applications pending relating to a general subject or art, and are involved in many interferences which delay their cases in the office. Their interests are financially very great. Millions have been and are being expended in the production and perfection of these inventions. The securing of patents which will protect the owners in the use of such inventions is vital. To take out some of their patents, while so much is being litigated, and while rival concerns still have pending cases relating to analogous subject-matter, would be productive of enormous loss. These considerations must be given due weight.

Some cases, in which a plea for further delay is made, it would appear that counsel merely hopes, by repeating and impressing his arguments in various forms, to finally win over the Examiner.

Whether rightly or not a good many attorneys do not wish to be denied the privilege of impressing their arguments on the Examiner over and over again. This should not be necessary. If the applicant and the Examiner fully understand the case and the art, there is no necessity for this repeated review.

Some few of these applicants whose cases have been long pending are undoubtedly actuated by motives similar to those which actuate the citizen who does not want to enlist. They hope that, by some hook or crook, to keep their cases going a year or two longer and by that time, they are trusting, the war may be over, and they will finally escape the firing line.

So grave has become this evil of long pending cases, so great is the inertia of this load, so clearly is a remedy necessary to the preservation of our patent system and the interests of inventors and the public alike, that the Commissioner has seriously set about the work of bringing these cases to a conclusion. Results are plainly apparent, but the end has not been reached. Eager to afford these tardy prosecutors an additional opportunity to protect their inventions as he is, yet he has firmly impressed upon these applicants that he will not permit any needless delay. To that end he has sought to limit amendments to those that will not longer delay the case. He has taken over the personal consideration of all amendments to applications pending five years or over.

> "If an amendment is filed in such a case which puts it in condition for allowance or final rejection, it will be accepted, but if the amendment does neither of these two things, as, for example, when an applicant undertakes to put in new claims the amendment will be considered without being entered and the applicant notified by the Commissioner of the character of a supplemental amendment which will put the case in condition for allowance or final rejection. If the applicant fails to file such supplemental amendment, the amendment which has already been filed will be refused admission and the case when the year is up will be held abandoned." (Commissioner's address to the Patent Bar Association, Chicago, Ill., Nov. 19, 1914, Sci. Am. Dec. 12, 1914, p. 491.)

It will be readily apparent that this plan is going to bring the prosecution of this class of cases to a close, yet there is given each applicant, after all the opportunities he has already had, a still further opportunity to draw his claims to cover what he believes he has invented, and if he can not agree with the Examiner to obtain the judgment of the higher tribunals. Even where an applicant seeks to expand his case anew, at this late date, by claiming something he has not claimed before, thereby necessitating "new references or reasons of rejection" the office goes so far as to examine this new amendment and indicate to him what part, if any, is allowable, and gives him an opportunity to incorporate this part in his patent.

It would seem that this plan is as liberal as is possible, consistent with the end had in view, and that no one can justly claim his rights have not been safeguarded.

Returning to the consideration of applications generally, there is thought to be some loss of time due to what may be called debatable rejections. There is no need to discuss here practices that are settled, grounds of rejection that are fixed, but there are several grounds of rejection that are very frequently used and possibly a little more uniformity throughout the corps would be an economy of time.

I have read office letters rejecting claims on the ground they recite aggregations, where the claims would seem to be for true combinations, which were merely old combinations. Perhaps the ultimate end, the amendment of the claim, is finally reached, but often such rejection precipitates argument and needless waste of time.

While the United States Supreme Court in the decisions of Hailes *vs.* VanWormer (20 Wall., 368) Florsheim *vs.* Schelling (53 O. G., 1737); Adams *vs.* Bellaire Stamping Co. (57 O. G., 1280); Richards *vs.* Chase Elevator Co. (71 O. G., 1456); Reckendorfer *vs.* Faber (92 U. S., 347), and the U. S. C. C. of Appeals ,Seventh Circuit, in the case of Deere and Co. *vs.* Rock Island Plow Co. (82 O. G., 1561), discuss very fully this question of aggregation versus combination, the following from a decision of the Examiners-in-Chief, made in a recent case, is so pertinent that I take the liberty of quoting it.

> "In the first place, it should be observed that the problem of whether a given claim sets out a patentable combination or an aggregation is not to be solved by the citation of references. A true combination of elements, working together under a cooperative law, and producing a given result, remains a true combination for all time, irrespective of the antiquity of its original creation, . . . the ground of rejection which is proper is not that the combination is illegitimate, but that it is old."

The question settles itself by determining whether the elements named in the claim *cooperate, work to-*

gether, though not necessarily simultaneously, but so that by virtue of what they *together* accomplish, a different result is secured from what would be secured if the elements were used separately. As was said by the Supreme Court in the Reckendorfer *vs.* Faber case, *supra*: "There must be a new result produced by their union; if it is not so it is only an aggregation of separate elements." This case was based on a lead pencil with a rubber eraser at one end. The court aptly pointed out that the rubber did not perform any function in connection with the writing. It remained inoperative, and could as well be absent. So in erasing the marks, the pencil remained inactive, did nothing, could as well be absent. These two things never worked together, and never accomplished any joint function or result.

A second ground of rejection that gives rise to much trouble and creates considerable argument and friction is applied to claims for alleged machine or apparatus methods or processes as distinguished from chemical and article methods.

It is not the purpose of this paper to discuss this class of claims from an academic view point or quote from the many learned expounders of this subject. Further, the matter has been ably treated in a previous paper presented to this body. It is desired here, however, to make, if possible, a few practical, rough suggestions which may be helpful in determining whether a claim is for a true method or for the function of the apparatus.

The authorities are pretty well settled that the old definition of the United States Supreme Court in Cochrane *vs.* Deener (11 O. G., 687), stands as about the most tangible and workable definition yet given. There must be present an act or a series of acts and they must be performed upon something to change it to a different state or thing. Remembering that only so-called machine processes are under consideration, and that the main difficulty is to distinguish them from the function of the machine or apparatus, it may be helpful to first note that the claim does not recite specific means or mechanism. If this specific mechanism is necessary to support the alleged steps, it is probable these latter are inevitably the function of such mechanism. It is well to try to discover what the step is or what the series of steps are; to recognize them in the language used in the claim. Then the thing they are performed on should, if possible, be identified. This may be the electric current, as in the Telephone Cases (126 U. S., 1532), and O'Reilly *vs.* Morse (15 Howard, 62). If these can be identified it is generally easy enough to determine whether the steps are so tied to specific mechanism as to be but its function, or whether they can be performed, within the language or terms of the claim, by different mechanisms differently organized, or, if the nature of the steps permit, by hand. While no function can be carried out without some means to do it, yet the function must be distinct from the means, from its practical embodiment, and its immediate effect. There must be some other means, with some other embodiment, to which this function is common. Robinson on Patents cites the example of smoothing something, and explains how different things, like running water, a single knife, a sliding weight, a group of revolving knives, may perform this function. The machine step of smoothing, therefore, is performed by some means, but is not a function of any specific means, but is a function of several different mechanisms or means, and is a proper step of a method. Again, this author cites the function of exploding or igniting a substance, and notes this may be accomplished by different means, as a red hot iron, a flame, the electric spark, etc. The function is common to these different devices, and also these different devices can operate without producing the function of exploding or igniting a substance. These things have separate existence, the means is a permanent thing and the function is a transient, intangible thing.

If these principles concerning this class of claims can be had in mind considerable time can be saved, both in determining when a claim should be rejected and in making suggestions to an applicant who discloses but is not succeeding in properly claiming a method of this character.

There is another ground of rejection which is not uniformly interpreted throughout the office. This is that the claim is functional in that it fails to recite the means for accomplishing the results specified. Sometimes the mere length of a functional statement, predicated upon a properly included means, is made the basis of rejection. Obviously this is in error.

The so-called "whereby" clauses, and those beginning with the word "adapted," are often found to be unsupported by the inclusion in the claim of the means for accomplishing these functions. In such cases, the means should be included. But the statement of means, mechanisms, or devices, accompanied by their functions, constitute the long accepted manner of drawing claims for mechanical inventions. If the elements are recited, the length of the functional clause is of no moment. If recited generically, the claim is merely broad and if otherwise patentable is allowable.

There is a class of claims wherein the entire invention is recited in the generic words "means," mechanism, or devices, accompanied by the functions of such means, or mechanism, without defining anywhere in the claim the structural nature of the means or mechanisms or devices. Of course these claims are as broadly drawn as possible, and in language, cover any and all means for accomplishing these functions, cover means substantially different.

There are at least two views held in this Office as to such claims. One is that they are too broad, are broader than the invention, and that they are therefore unpatentable. Beside several Commissioner's decisions there are decisions of the United States courts which look to the support of this view. (Consolidated Electric Light Co. *vs.* McKeesport Electric Light Co., U. S. Supreme Court, 159 U. S., 465; Madison *vs.* Campbell, U. S. C. C., 78 Fed. Rep., 910; Wilson Trolley Catcher Co. *vs.* Frank Ridlon Co., U. S. C. C. of Appeals, First Circuit, 159 O. G., 244; *Ex parte* Denning, 26 O. G., 1207; *Ex parte* Knudson, 72 O. G., 589; *Ex parte* Pacholder, 51 O. G., 295.)

The other view is that no matter what the breadth of terms used in the claim, an inventor is only entitled to what he has invented and produced, and substantially its equivalents and, if the invention is of a pioneer character, the range of equivalents will be proportionally broadened when, on proofs, this is made to appear. These claims, if they can not be met by references, are, therefore, to be allowed.

The cases where courts have held such claims void on this ground alone, of being broader than the invention, are so few, and modern judges are so prone to construe claims to save a really meritorious invention that the question is one of no very great moment.

There is one other ground of rejection of which mention may be made. This is upon the so-called Hawley doctrine. This doctrine was first emphasize and made prominent in the decision of the Court of Appeals of the District of Columbia, *In re* Hawley (121 O. G., 691), although it is but a repetition of the substance of *Ex parte* Griffith (85 O. G., 936). This holding has been confirmed by the same court *In re* McNeil (20 Ct. App. D. C., 294), and *In re* Ratican (162 O. G., 540). Later the Circuit Court of Appeals, Third Circuit, held a claim void on this ground in the case of Langan *vs.* Warren Axe and Tool Co. (166 O. G., 986).

This doctrine is to the effect that where the combination recited in the claim is old and the distinction over the prior art resides in one element only of the combination and does not result in a modified or improved action of the other elements of the combination the claim is unpatentable and should be limited to the element *per se.*

The doctrine has been quite extensively applied by some Examiners and but little used by others. It is a proper ground of rejection when properly applied.

It is believed the vital determining factor is whether the element which has been improved constitutes a complete thing itself capable of separate and independent use, or one that has acquired a distinct status in the arts and trades. If neither of these conditions is present, it is doubtful if the doctrine applies.

In the Hawley case, the improvement was in a tape to be used in a recording mechanism. The latter was not modified in any way and was admittedly old. Obviously the tape fulfilled the conditions above noted.

No one would buy a new recorder every time he used up the tape, any more than one would buy a new typewriter machine every time he used up his supply of paper. The tape was clearly a separate subject of invention, a separate article of manufacture and sale and should not have been claimed in combination with the old recorder.

In the Ratican case, the invention resided in a nozzle for a street washing machine, otherwise old. It is plain enough the nozzle was a separate, complete unitary thing, did not in any manner change the operation of any part of the machine, was a separate subject of manufacture and sale. Obviously no one, wishing a new nozzle, would purchase an entire new street washing machine.

The case of Langan *vs.* Warren Axe and Tool Co. is a very much more important one. The decision was rendered by the United States Circuit Court of Appeals, the patent was already granted and the claim was held invalid.

There exists some difference of opinion as to whether this ruling may be said to uphold the so-called Hawley doctrine. There was a very plain discrepancy between the statement of invention in the specification and the structure covered by the claim. The specification made it very clear that the patentee had invented a new kind of grab-hook, and merely described how such hooks were to be used, in pairs, with a draft device in skidding logs. The claim, however, was for the combination of a pair of hooks with the draft device. The novel details of the hook were, however, specified in the claim.

The court emphasized this lack of consistency between the statement of invention in the description, which was that applicant had merely improved the hook, and the statement of the claim, and in doing so said:

> "There is no suggestion that any part of the patentee's invention resides in the combination of the grab-hooks and the draft appliance. The connection between the grab-hooks and the draft appliance by means of links or chains is mentioned, but such connection was as old

> as grab-hooks themselves, and the patentee expressly states that his invention consists, not in any such combination, but in the particular and peculiar form of hook. . . . Not only is the claim for a combination foreign to what is set forth in the specification, but there is no new coaction or cooperation of the elements of the combination. The grab-hooks and the draft appliance of the patent, in combination, coact as grab-hooks and draft appliances have always done. The grab-hook of the patent, by reason of its peculiar construction and form, is very probably an improvement of no little utility. But the patentee can not, merely because of this fact, have a patent for a combination, which shall have, as one of its elements, a pair of such grab-hooks. He did not invent the combination. He invented, if he invented anything, an improved grab-hook."

On being urged by counsel to construe the claim as for the hook alone, the court said:

> "Manifestly, we can not so construe it. The claim is for a combination of grab-hooks, of a peculiar form, and a draft device. We are not at liberty to distort its plain language."

Whatever may be the view as to the general effect of this decision, the fact is plain enough that this patentee lost his invention because he did not claim the hook alone, because he claimed it in the old combination which it did not affect in any new way.

It is hardly to be presumed the court would have found the claim valid if the patent itself had not contained the inconsistencies noted by the court, provided the proofs adduced at the trial had been such as to set forth this same state of facts.

This decision is sufficiently suggestive, that in plain cases, the doctrine should be applied.

In the usual house door-bell arrangement, in use all over this city, there is a push button switch, a bell, a battery, and the wire conductors. Each is a separate subject of invention and has a distinct status in the art and trades. An inventor may improve the bell, the switch, the battery, or the wires. None of these improvements would affect the mode of operation of the other elements, and the claims should be confined to whichever element—the switch, the bell, the battery or the conductors—that is improved. A combination claim should not be allowed.

But if an invention is made in a part of the switch, or the bell, or the battery, which part has no general utility, no separate status, it is doubtful if the Office is warranted in objecting to a claim that includes the entire switch or the entire bell, or battery. These are unitary things, and to carry the Hawley doctrine to their details of structure constitutes a refinement of procedure that can only result in harmful confusion, friction and delay.

An adherence to this firmer ground in the application of this doctrine will in no way endanger the validity of any grant, but will save much time and needless argument.

In conclusion I leave with you, therefore, this suggestion:

If this great and ever-increasing quantity of work is to be carried on at all, if there is not to be such an accumulation of pending applications as will cause the whole examining system to fall of its own weight, there must be a greater uniformity of practice on the part of the various Examiners, there must be fewer needless objections, fewer needless rejections, better first searches, more carefully considered actions, both on the part of the Examiners and on the part of the applicants as well, and a more prompt conclusion of the pendency of cases before the corps.

January 28, 1915.

Stanford Law Library
3 6105 06 134 745 1

Stanford Law Library
3 6105 06 134 745 1